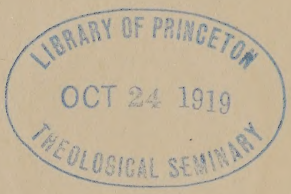

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FUTURE LIFE

IN THE LIGHT OF ANCIENT WISDOM AND MODERN SCIENCE

FUTURE LIFE

IN THE LIGHT OF ANCIENT WISDOM AND MODERN SCIENCE

BY

LOUIS ELBÉ

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BEING THE AUTHORIZED TRANSLATION OF

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INTRODUCTION.

Science is available in Discussing the Survival of the Human Soul. The Existence of the Soul not a Question of Metaphysics. Philosophers of the Present Day have supplied Matter for the Inquiry. The Author's Anonymous Pamphlet on this Subject. The Existence of Ether affirmed by Antiquity and assumed by Scientists. Universal Belief that the Spirit is destined to outlive the Body. Ether found in Organic Life, and now looked for in Conscious Life. We apply to the Human Soul the Law of Indestructibility of Matter and Energy.

THE aim of the present work is to broach once more the problem of the survival of the human soul. It recapitulates all that the wisdom of the ancients and remote tradition have to say upon the subject, in order to discuss that evidence in the light of the theories put forward by modern science. Divers critics will no doubt condemn such an attempt unheard, with the objection that laws derived from the observation of the perceptible world cannot be made to serve as proof of any deduction which attempts to go beyond that world. We opine, on the contrary, that at the present day any such discussion would be devoid of all authority unless it had, in so far as possible, undergone the preliminary test of positive science, seeing that this latter has become for us the one and only source of uncontested truth.

In the midst of the enthusiasm which the marvellous discoveries witnessed by us have evoked, our contemporaries have come to discard all faith except that based on material science ; and as the majority of them are entirely unable to verify for themselves the exactness of the principles which it teaches, the French Academy of Sciences has, to use a famous expression, acquired, in their opinion, all that moral authority which the canons of religious faith possessed over the minds of our forefathers.

Through the exaggerated application of a principle just in itself, they have come to reject as empty and

unfounded affirmations all dogmatic ideas, and sometimes even all conceptions of moral duty, because in their view such ideas and conceptions cannot be directly connected with the data of positive science.

This state of mind, nowadays of such common occurrence, certainly constitutes the cause of the moral disorder of our times; and the situation will remain incurable so long as it is not decided to transfer the discussion to the only ground where it is not repudiated from the first, and above all to give it the support of the great scientific laws which are to-day accepted, and of the conclusions deducible therefrom.

Let us note, moreover, that the problem of the existence of the human soul is in this aspect quite distinct from the doubtless unfathomable speculations upon which metaphysical philosophy spends itself in vain. It is practically alone in being with advantage amenable to experimental investigation, and it is, besides, as we shall see hereafter, closely related to all the theoretical conceptions nowadays held by science with respect to the material world, the manifestations of which it studies.

Hardly need we add that the question of the survival of the soul is of urgent interest to each one of us, since it strives to discover the nature of the dread unknown which awaits us all when we shall have paid death's inevitable toll. This explains the eager, restless excitement with which the problem is now being discussed from every available point of view.

Were it permissible to cite the experience of daily life where a question of eternity is concerned, we should be disposed to say that this question possesses the world to-day in a very striking degree, and a whole library might be made up of the publications to which it has given rise within the last few years alone.

In their attempt to grapple with this mystery which always eludes them, philosophers (religious apologists and scientists alike) have at all events clearly restated the elements of the problem; they have given us new insight, brought facts into unexpected juxtaposition, and furnished us with startling observations, all this supplying matter for the inquiry which is still pendent.

For humanity, too, it is an all-important question. Do what we will, it forces itself upon us, and positive science is incapable of solving it. Yet positive science may at any rate assist in shedding light upon the solution, and we should enter upon our inquiry with all the resources which are thus afforded us. This is the task which we have undertaken in the present book ; for we endeavour to show that the idea of a survival follows, by what appears to us a necessary sequence of argument, upon scientific laws accepted at the present day.

In an anonymous booklet which we published in 1896[1] upon this same matter, we sketched the perhaps somewhat novel point of view which has guided us; and the remarkable interest which was awakened by that essay among a select public, made up of scientists, engineers, and literary men of high standing, has induced us to recapitulate and expand it into a new work embracing the question under its two principal aspects—the past and the present. We thus investigate successively the doctrines of ancient philosophies and of modern science.

In the first part of the book, the principal religious customs and beliefs of the races which peopled the earth before us are passed in review, and from them we seek to make out the dim echo of the common faith of primitive man. At every step, as will be seen, we shall encounter among the most divergent races the constantly reiterated assertion that there exists in man's body some subtler element destined to outlive the physical organism, because it draws its life from an invisible world other than that of matter.

The second and last part deals with positive science, but a hard and fast line is drawn between the fundamental laws which it teaches and the generally respected conceptions which it appears to adopt. Here we shall find that we are led to admit the notion of a semi-material element, the invisible ether which is always cropping up in every scientific theory, and which so marvellously corroborates what was constantly affirmed by antiquity.

[1] "La Vie Future devant la Science," Paris, Librairie Nouvelle, 1896.

Scientists, in explaining the slightest phenomenon, suppose the intervention of an unknown fluid; they now find it in the constitution of matter itself and in the mode of action of the organic as well as of the physical forces, and we are therefore justified in looking for it in the manifestations of conscious life.

We discuss from this standpoint the wonderful and absorbing investigations which have become more and more numerous during these later years—investigations seeking to clear up the vexed question of the constitution of the human soul—and we essay to show that they too can be explained only by the intervention of the mysterious ether. Thus we recognize that the notion of this invisible element acquires double authority, first, as the invariable tradition of mankind; secondly, as an induction based upon experimental observation.

At the same time we appeal to the Law of Indestructibility, which governs all the manifestations of life, and we come to the conclusion that conscious force cannot perish, when we observe with what unswerving constancy this law watches over the preservation of the minutest material atom, and presides over the transmutation of energy and the recording of all past events. In the name of science we are therefore justified in retaining this uncontroverted law of indestructibility, and we may apply it to the human soul and endow that too with the power to survive.

Certainly no delusive hope deceives us that we shall be able in this book to put forward a doctrine capable of meeting all legitimate objections, and of solving the unfathomable mystery of life. Too well we know that for us absolute certitude terminates with the limits of the perceptible world, and that in all its plenitude it will doubtless never belong to mankind. Nevertheless, we hope that our conclusion will be admitted to possess probability of a certain value, seeing that it reposes upon the two greatest authorities to which man in his present state can appeal, if we omit religious faith, —of which he may, however, therein find confirmation.

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FUTURE LIFE

In the Light of Ancient Wisdom and Modern Science.

PART ONE.

FUTURE LIFE IN THE LIGHT OF ANCIENT WISDOM.

CHAPTER I.

THE IDEA OF SURVIVAL IN THE VARIOUS CIVILIZATIONS OF ANTIQUITY

The Spiritual Insight of the Ancients. Tradition and Primitive Philosophy to be appealed to for Help in understanding Spiritual Matters. Evidences of a Belief in Survival among Prehistoric Races and Modern Savages. Chinese Ancestor-worship. The Evolution of the Survival Idea among the Egyptians. Transmigration of Souls believed in, but abhorred, by the Hindus. Survival as viewed by the Chaldeans, and by the Gauls. Immortality obscurely taught in the Old Testament. Taught also by the Greeks, and for a Time by the Romans. The Christian Doctrine of Immortality and Divine Love. Disagreement of Roman Catholics and Protestants on the Question of a Purgatory. Survival as viewed by Spiritists, and by Theosophists.

SIDE by side with scientific observation, which carries with it the conviction belonging to ascertained facts, the traditions handed down to us by antiquity retain a species of moral authority which is also of high importance, and in studying the still vexed problem of a future life we can in no wise afford to neglect them. If we admit that it is possible to disentangle from them a fairly definite conception such as might be considered, in principle at least, to epitomize the common faith of widely divergent races, and thus to formulate the permanent belief of mankind, we are bound to acknow-

ledge that a general concurrence of this kind tends to endow the teachings of primitive philosophy with the authority of an original revelation, as if primeval man had been favoured with an insight into the problem of the invisible world which we cannot now regain. So indeed thought Cicero. Undoubtedly, despite its harmonious agreement, the doctrine is not always defined with equal precision, and cannot claim unrestrained adhesion unless it find at least indirect confirmation from the observation of facts. This is precisely the reason why in the second part of this work we shall call in the intervention of modern science, and shall ask in what degree it can extend the support of its peculiar authority to a theory it is unable to verify directly. We are not unaware that science is still powerless to subjugate the recalcitrant problem. It is none the less able to supply us with crucial conceptions regarding points which trench upon its sphere, and possibly it may explain some of them.

To lay down the limits of the first portion of this work: We shall endeavour to decipher the teaching of primitive lore, and to this end we shall examine in succession such traditions as have been bequeathed to us by the various races and civilizations that have in turn embodied the beliefs and hopes of mankind.

To begin with, in order to follow the doctrine through all its progressive stages, starting, if possible, from its very birth, we shall attempt to go back to those vanished races whose memory has come down to us solely by means of a few shapeless monuments, such as the cromlechs and menhirs. The intention of those monuments has been long since forgotten, yet it is possible to interpret the rudimentary drawings with which they are decorated and to discover therein a clear moral design. This has been shown by M. E. Soldi, the eminent archæologist; his works, which abound in ingenious conjecture, have been our guide in the next chapter. He has pointed out how these clumsily executed drawings and rude characters invariably embody a principle which we find recurring absolutely identically in widely separated countries. They are for the most part an

outcry against death, a call to that spirit of life which shall one day return to breathe a new existence into the corpse lying buried beneath the stone on which they are inscribed.

The very same belief in a survival which thus prompted prehistoric races is still encountered to-day among wild tribes outside the pale of civilization. They cannot acknowledge that death destroys a human being entirely; and in the weirdest superstitions and most savage customs it is very nearly always possible, as we shall see, to discern the constant purpose of satisfying the new acquirements of the soul when freed from the physical body.

After having inquired into the primitive form of the notion of survival, and after having noted it in the relics of prehistoric peoples and uncultured tribes alike, we shall in the subsequent chapters proceed to examine the great races who have left an imprint upon the history of civilization, and we shall pass them in review one after another, with the object of discovering what were the notions which they held regarding a future life, and the consequences which these notions had upon their public and private affairs.

As we follow up the doctrine through its progressive stages, we come first upon the Chinese race, the study of which is especially interesting, seeing that it furnishes us with the sole contemporary example of that organization based on the family which characterizes the societies of antiquity.

The Chinese retain quite intact the ancestor-worship which prevailed in the earlier development of the great historical civilizations, after they had once freed themselves from the primitive worship of fetiches.

In this conception, which is found so clearly marked among the most dissimilar races of antiquity, the idea of survival is accepted without discussion. At the same time we have to deal rather with an impersonal existence, in which the disembodied entity becomes as it were absorbed by the souls of his forefathers in order to form with them a collective soul representative of the family, much in the same way as the species-type

in the animal kingdom, if endowed with an objective existence, would represent the species. This conception, which gave rise to the worship of ancestors who were regarded as the exclusive tutelaries of the family, led, precisely, for that reason, to the creation of the quite peculiar social institutions of antiquity which have in some degree survived down to the present day. No doubt it was gradually discarded by more modern civilizations, as they attained the idea of an inevitable reward awaiting the acts of our present existence, in conformity with the doctrine of metempsychosis, and, above all, with that of conscious immortality as laid down by the Christian dogma.

None the less does the notion of an impersonal survival constitute a most important step in the evolution of the idea of a future life, for it has left an ineffaceable mark upon history; and it was fitting to study it with special care in the only people which has preserved it intact.

After the somewhat rudimentary conceptions of the Chinese we touch in the succeeding chapter upon the tenets of the Egyptians. These, on the other hand, attest profound knowledge, for we find in them the most precise assertions with regard to the constitution of the human soul and its future destinies. We also note the dawn of that faith in the transmigration of souls which is common to the whole of antiquity and is yet accepted by the vast majority of mankind. Egypt has been rightly regarded as the true civilizer of other nations, and did we but possess complete the doctrine of its mysteries, it is no doubt to Egypt that we should have to look for the precise formulation of ancient belief. Unhappily we are denied that knowledge, and it remains impossible to us to explain in any degree to our satisfaction certain strange characteristics which seem to clash entirely with the lofty wisdom of which Egyptian religion gives, in other respects, so many proofs.

The Hindus, to whom we next pass, have a distinct leaning toward a species of shadowy metaphysics which lends itself to many often contradictory interpretations, and between which it is not always easy to pick and

choose. They are, however, unanimous in asserting a survival of some kind, whatever may be the particular philosophical system to which they are allied. The Hindus are at one with the Egyptians in their conception of the soul as a complex whole formed by the union round a single element of relatively independent envelopes. They likewise accept the theory of the transmigration of souls, which they extend to all animate objects.

This idea, which lies at the root of all Hindu theories, entirely predominates in all their schools of philosophy and religion, which look upon re-embodiment in a sentient existence as an evil to be evaded at all costs; in their one desire to escape from it, they have gone so far as to recommend a life of purely meditative asceticism, deeming that all activity, good or bad, is in itself an evil, since it is a sign of our attachment to the present life, and thus lengthening the duration of the cycle of fate from which we must of necessity escape in order to attain true beatitude in the semi-annihilation of Nirvana.

From the Hindus we pass to the Chaldeans, whose history is being constantly carried farther back into the ages and is thus acquiring a steady increase of authority. Unfortunately, neither has the teaching of the magi of Chaldea reached us in its entirety, but the documents which have come down to us are enough to enable us to declare that it, too, was founded upon the idea of survival, better interpreted, perhaps, than it had been by Egyptian doctrine, because it was always divested of those crude observances from which Egypt was never free. Consequently it is in Chaldea above all that we should seek the noblest and purest expression of the wisdom of ancient times.

Next we treat of the Gauls, who are connected with the Chaldeans by a number of most astonishing analogies, and who likewise appear to have caught the true echo of primitive belief. The thought of a future existence and of the transmigration of souls permeated their life throughout and governed their actions. Far, however, from deducing therefrom, as did the Hindus, the bitter

feeling of the vanity of all activity and pessimistic views, they drew from it, on the contrary, the idea of courage and self-sacrifice, deeming that the practice of righteousness and heroic virtues was the most ready means of entering upon the path of perfection and of earning an escape from the law of transmigration.

The Jews received the revelation of Divine unity, which gave them historically exceptional authority among the ancient peoples. On the other hand, they could never rise, at least in their public teaching, above the crude material conceptions of a survival, such as belong to primitive tribes. Their great legislator, brought up in the school of the Egyptian priests, was certainly acquainted with the secret tenets of ancient lore, and we may, in fact, trace in certain passages of the Bible the Egyptian idea as to the complexity of the human soul. However, Moses no doubt judged that the stiff-necked race of Jews, to use the Scriptural expression, so often disobedient to the word of Jehovah, was far too deeply immersed in the material delights of the present life to be able to soar to this exalted spiritual knowledge. He therefore partly veiled his statement of doctrine, reserving it for the initiated alone, and it is impossible to disentangle it from the text of the Holy Book without having recourse to an interpretation liable to disputes. It must be acknowledged that if the Bible does from time to time affirm immortality, it is principally in certain books which came under foreign influence, namely, Job and Maccabees We do, however, encounter the affirmation in the Cabala, where it is presented in a form which brings it into yet closer relation with the conceptions of the ancient Egyptians and the Chaldean magi.

The Greeks also were acquainted with the notion of a survival, albeit they did not, like the Gauls, make it the exclusive ground for their acts. It is to be met with in the legendary tales which appear at the dawn of the history of the city States, and it formed the basis of the mysteries. Moreover, it was enunciated by the great Hellenic philosophers, who taught it to mankind,

and it is from them that we borrow justificatory arguments even to the present day.

The Romans, who from their standpoint are akin to the Chinese, also present us with a social State originally based exclusively on the idea of survival, which, however, subsequently vanished by degrees from their thoughts, For the most part they did not go beyond a somewhat crude and primitive conception of the collective existence of impersonal souls. They never sought to support their notion of a future life by making it part of the general harmony of the universe, or in placing therein the necessary reward of the acts of our present existence. Gradually, as the recollection of their origin disappeared, they abandoned the conception, and in the works of their philosophers the thought of immortality appears rather as a pious longing of the imagination devoid of sufficient support in the reality of fact.

Illumined by the new revelation disclosed by the Divine Founder of Christianity, His disciples espoused the faith in personal immortality with all the unshaken conviction which had marked the Gauls, and they at the same time completed it with that notion of a divine love, charity, and devotion which antiquity had not known and which was destined to change the face of the world. They idealized the belief in survival by showing that it was to be, above all, immaterial, and that the felicity to be hoped for was to be sought in the contemplation of the infinite perfections of the Deity. Under certain aspects this was no doubt the same doctrine of the return of the human soul into the bosom of Eternal God which antiquity had already inculcated, but it was completely transformed by the new thought of the supernatural powers of charity and love.

At the same time Catholic dogma gave precision to the future existence by showing how in the opposite terms of the broad dilemma, heaven and hell, the acts of mortal life would receive their inevitable and merited reward ; the idea of a purgatory was moreover introduced, forming an obligatory limbo in which were confined souls not yet sufficiently purified or worthy of sharing in the celestial felicity. This doctrine of an

intermediate world gave a new complexion to the harmony of the divine plan, and also allowed of our understanding the beneficial effect of prayer, which is the agency by which communion is maintained between the souls of the righteous in the three successive stages, in Heaven, on Earth, and in Purgatory.

The prayers and sacrifices of the Church militant pave the way for the salvation of the suffering Church and call down upon us the grace and favour which the Church triumphant is able to dispense.

In contradistinction to the ancient religions, which had recourse to material sacrifices in order to maintain the vegetative existence of the souls of the deceased in the yonder-world, Christianity endeavours to open for them a life of blessedness by means of the infinite merit of the Saviour ; and instead of invoking their succour in the present life, it prays for them in the other.

Despite the lofty moral and religious significance attaching to the dogma of purgatory, the Protestant Churches refused it their assent, alleging that it was not provided for in the eschatology of the Gospels, and they confined themselves to the simple opposition of heaven and hell, without regard to the fact that they were thus delivering into everlasting damnation the majority of men, who pass to death insufficiently purified for heaven. This conclusion appears to be nowadays unacceptable, and the greater part of the Protestant creeds endeavour to mitigate it by a return under various guises to some middle solution analogous to that of purgatory. It is not our business to press these doctrines home, but in a special chapter we shall refer to that of conditional immortality, which constitutes a fresh and particularly original solution. It was at first much disputed, but is now fervently adopted in Protestant communities.

We next examine with great care two other theories which are not related to any definite dogmas, but are rather connected with the teachings of ancient belief as we have endeavoured to determine it. These theories are spiritism and theosophy.

The spiritistic doctrine may be summed up as follows.

When the disembodied soul of man reaches the world beyond, it still retains the memory of worldly cares, and henceforth, by means of the fluid-like envelope, with which it is surrounded, it is enabled to give rise to material manifestations affecting some one of our senses. It is, however, necessary that for this purpose certain subjects gifted with an appropriate organization should be used as intermediaries; these subjects are known as mediums. They act in unconsciously supplying the disembodied spirit with that vital fluid and even the physical organ which it requires, and in such a manner that, so long as the communication lasts, that organ is no longer under the control of the medium himself, but of a foreign personality taking the place of his.

This new religion, which claims to demonstrate by experiment the survival of the soul, has not so far succeeded in formulating any doctrine with regard to a future life which is universally accepted by the various sects to which it has already given birth; but it may be stated that in general nearly all of these admit the dogma of successive reincarnations as laid down by antiquity.

Theosophy, on the other hand, puts forward a distinct theory which, though it cannot pretend to challenge all objection, nevertheless embodies in a complete and homogeneous doctrine one of the most remarkable solutions of the problem of the constitution of the human soul. The soul is viewed as a complex whole in which several semi-fluid bodies of greater or less rarefaction surround a central ego. Each of these is destined to enjoy its own individual existence in appropriate surroundings. Theosophy thus reduces the actual personality of the human being to the level of a mere ephemeral accident amid the continuous modes of an endless existence, and in so doing has certainly incurred objections and dislike; these are justified, because all experimental verification is systematically contemned, while the charming simplicity which our forefathers so much admired in the Christian dogma is completely lost.

It must, however, be allowed that theosophy in many respects expands rather than combats the dogma, and for the most part does little more than furbish up anew what was inculcated by ancient lore. If at times there is a departure from simplicity, this may be perhaps necessitated by the infinite complexity of things; and it may be added that, from the scientific standpoint, the latest theories regarding the part played by the ether in the manifestations of energy and matter are of a nature, as we shall observe later, to strengthen the theosophical views in a manner which cannot be overlooked.

CHAPTER II.

PREHISTORIC TRADITIONS AND REMAINS.

Primitive Funeral Rites as Evidence of Belief in Survival. Evolution of the Idea of Future Rewards and Punishments. Influence of this Belief on Laws and Customs. Customs which show that the Soul was believed to be entombed with the Body. The Importance ascribed to Burial Rites. Manes and Penates. In the Stone Age, Resurrection regarded as a New Birth. Drawings on Prehistoric Tombs, expressive of the Hope of Resurrection. The Sun regarded as the Author of All Life. Symbolical Ornamentation of Tombs in Egypt and Greece. Summary of M. Soldi's Ideas on Prehistoric Monuments. A Forecast of the Modern Theory of a Vibrating Etheric Fluid.

In the most remote ages and among civilizations absolutely dissimilar appears the belief in the survival of the soul. Primitive men, yielding as it were to a resistless impulse, imagined, without exception, that death does not destroy the human being in his entirety, but allows a more or less conscious element to survive, still perhaps in close connection with the physical body, and able to exert a personal influence over the dead, and even upon the living.

This conviction dictated in the first place funeral rites, which for the most part consisted in ceremonial incantations aiming at rendering the passing of the soul of the deceased into the world beyond more easy by the removal of obstacles, and thus assisting it to obtain some kind of happiness. At the same time, these ceremonies helped to maintain the subsistence of the disembodied soul. By virtue of hallowed sacrifices, and, above all, by the offering of victuals whose smell and savour attract the volatile phantom with which the soul is henceforward wrapped about; and

by the outpouring of newly shed human blood upon common salt, which sets free in it the vital principle—the ever drooping life of the spirit is strengthened and endued with fresh vigour.

Such notions of a life beyond the grave were certainly as indefinite as they still are to-day. In the first place, as primitive races believed, the surviving principle is supposed to remain confined in the grave beside the corpse, which it no longer animates, and it is imagined to retain a semi-material existence entailing physical wants akin to those of the living, notably the desire of food. Later, the mind of man rises to a conception less purely material, and the souls of the dead are imagined as being able to partially leave the tomb and congregate in a place of their own, where they pursue the occupations of physical life. Still later, the idea arose that this new existence must be influenced by the deeds of the present life, for which it is either the reward or the punishment. Two soul-places are then distinguishable, Tartarus and the Elysian Fields, the one a place of torment for the souls of transgressors, the other of happiness for the souls of the righteous.

This last conception, which belongs to an already advanced epoch of humanity, is that most frequently occurring in ancient literature, and we shall meet with it in varying forms in the course of the brief analysis filling the next few chapters.

It would at the first seem to be impossible for us to advance anything precise concerning the hypotheses which preceded it in the mind of prehistoric peoples, seeing that they have left us, so to speak, no written record. Yet it must be remarked that these early beliefs exercised a preponderant influence upon the evolution of mankind. They have left deep traces, not only upon burial customs, but also upon almost all the phases of civilization. They have even inspired laws and customs which have survived to our own day, although our ancestors had already long forgotten the prime motive. But the formula still remains, preserved by tradition, and it is yet possible to disentangle the unremembered meaning.

As Fustel de Coulanges has shown in his interesting study, " La Cité Antique," the history and the civilization of Indo-European peoples find their explanation in the primitive conception formed by our earliest ancestors, the Aryans, concerning a future life ; and this same conception has swayed other races, such as the Chinese, who appear to have retained it down to the present time.

" If we go back to the earliest ages of the Indo-European race, that is, to the time when it first founded its institutions, and if we note the idea which they had of the constitution of man as well as of life and death," remarks Fustel de Coulanges, " we perceive an intimate connection between those principles and the rules of ancient private law, between the rites originating from those beliefs and the political institutions themselves." Thus is exhibited in a most striking manner the all-important influence exerted by the idea of future life upon the history of mankind.

In the mind of primitive races the discarnate soul actually retains an independent semi-conscious existence, but for all that it is unable to dissever itself from the physical body, with which it remains confined in the tomb. It is for the most part regarded as being identical with that intangible shadow which accompanies all living beings and material objects ; and we know, as a matter of fact, that the religious observances of certain primitive peoples invested the shadow of their sacred monuments with especial sanctity.

The laws of Manu go so far as to declare that the shadow of an unclean man or animal is enough to defile the sacrifice of a man that is pure.

All the ceremonies of burial are derived from the belief that this impalpable shadow survives, a belief which we find explicitly stated by the classical poets, such as Virgil and Ovid, when describing the funerals of heroes. At the close of the ceremony the soul of the deceased was called upon three times, and the wish was expressed that it might be happy in the grave. " May the earth be light upon thee," was the prayer of our earliest forefathers ; and even in our time, for all that we no longer

regard the tomb as the dwelling-place of the departed spirit, we nevertheless, by a sort of unconscious reminiscence, always wish it may rest there in peace.

If the invisible being thus remains present, still partially preserving the cravings of material life, it is the imperative duty of the living to satisfy these cravings; our early ancestors consequently arrived at the idea of burying with the deceased the objects most useful in life, such as food and clothing.

Hunting and warlike folk even made provision for the fights and struggles which might be encountered in the other world; they added the dead man's weapons, his arrows and his javelins, and occasionally they sacrificed his favourite steed. In the case of a powerful chieftain, a number of his comrades in arms and some of his wives were immolated on his grave, in order to form an escort in the future world and to minister to his pleasures. After the sack of Troy each of the Greek heroes, as his share of the booty, led away a fair captive. But Achilles was not forgotten in his grave, and for him was slain Polyxena, as his allotted share.

The peoples of the Far East practised similar customs in antiquity, and we find them recorded in the annals of the Japanese.

Thus the grave becomes the eternal resting-place in which the disembodied soul finds repose; burial comes to form one of man's primordial necessities, and to be deprived of it is the greatest misfortune, the most terrible punishment which can befall him. His soul is then without place of sojourn and is condemned to wander through the great beyond, an aimless outcast, suffering the torments of unappeased desires, and consequently becoming rapidly noxious to the living.

We meet among ancient authors with numberless passages attesting the prime importance unanimously ascribed to the performance of the burial rites. The shades which appear in the world of sense are almost invariably goaded by the craving for sepulture, or by the desire that their names should be deposited in the family graves if they had not as yet been laid there. For there alone could they find perfect peace, the goal

of their yearning; there, in the midst of the forefathers whom they had honoured during their sojourn upon earth, there alone could they receive offerings and sacrifices from the quick. This is a feeling still to be remarked among the Chinese, among whom is yet retained that organization according to family, which is the necessary outcome of early beliefs concerning survival. The manes in receipt of the offerings of the living rapidly became the gods of the family, compelled to protect it, seeing that they drew as it were their livelihood from the sacrifices which it was not permissible for the living to omit. They were at the same time bound up with the family in the most intimate manner, participating in its joys and its sorrows, compelled to defend it at all hazards from external oppression, whatever might be its pretext. Henceforth they are exclusive gods, who cannot withhold from the service of the family that superior power which they wield. If the family should be forced to quit the home of its fathers, the gods will go with it, although such an emigration would constitute a calamity not even to be thought of. They are tied down to the soil, which is family property and cannot be violated without great sacrilege, or alienated even by the head of the clan.

By the side of the tomb, where dwell unendingly the dead, is planted the hearthstone, around which dwell the living. There, too, dwell the tutelary deities of the family, who make themselves manifest upon the earth in the bright flames leaping heavenwards as they rise from the glowing embers, when the fire is kindled according to the hallowed rites. These gods are the penates who blend with the manes. They thus unite under their befriending guardianship the two fundamental symbols, tomb and hearth, which, thanks to them, become the collective inalienable property of the whole family, viewed not only in its departed members, but also in those to come.

On the hearth, as in the grave, penates and manes require ritual offerings, which are performed by the head of the family, who is alone competent to act as intermediary. In the societies of antiquity he is found

clothed with a religious dignity, which is the source of the sovereign prerogatives that he enjoys among his own. In speaking later of the Romans we shall show some of the results upon primitive law and upon the organization of the city.

If we recollect that the privilege of doing sacrifice descended only to male children, we immediately understand how essential it was for every man to leave behind him a son who should ensure the uninterrupted continuity of the sacred offerings, thus maintaining the life of the soul in the world beyond. This sentiment, which has left so deep a trace upon the laws and manners of antiquity, recurs among the Chinese of to-day.

We may judge how deep must have been the impression made upon our forbears by the idea of survival, for it to have left so durable a trace upon all historical civilizations. To be sure, it has left no written record ; yet in studying ancient manners and customs we shall find it as clearly marked as if it were formally stated. We may first of all draw attention to a custom universally respected among primitive races, namely, that of burying a body in the same bent-up position as that of the unborn fœtus. As was remarked by the Abbé Worsinsky of Apar in Hungary, when delivering before the International Catholic Congress, in 1901, a remarkable paper in which he refers to this peculiar characteristic of the graves of the Stone Age, this custom can have been prompted only by a belief in a resurrection. No other thought can have induced primitive man to force a corpse into an unnatural attitude which it was only possible to preserve with great difficulty. They wished, when intrusting a body to the earth, to show that they were replacing it in the womb of mankind's universal mother, there to await a new birth at the resurrection. It is, as M. Troyan asserts, a clear instance of forethought for the after-world, and it appears spontaneously and identically among various races at the beginning of their history.

But in addition to this universal habit common to primitive races, we find other not less striking evidence.

Thanks to the new light thrown on the subject through the latest researches of archæologists, we may to-day claim to possess as many unfading testimonies to the idea of a resurrection as there are monuments bequeathed to us by prehistoric generations.

On them are to be traced drawings which, although at the first glance they appear to form so many indecipherable mysteries, had none the less a very real and practical meaning in the minds of the people who made them; and, though in the course of ages their significance has been lost, the combined researches of men of science, who have had opportunities of comparing analogous pictures from quite different countries, have already allowed us to divine somewhat of their hidden sense.

Quite recently M. Emile Soldi has been able to condense the results thus obtained, and has succeeded in throwing a new light upon the interpretation of the primitive symbols which go to make up what he terms the sacred language. He has shown that in all probability these pictures, which are generally to be met with upon gravestones, were nearly always intended to express the idea of future life or the hope of resurrection. In their authors' minds they constituted a prayer to the superior powers, an invocation to which those latter were bound to pay heed. It is therefore remarkably interesting to meet the idea of a future life so clearly manifested even from the earliest ages of mankind, and attested by customs, pictures, and symbols which have come down to us but of which we no longer realize the significance.

In the interpretation proposed by M. Soldi, which derives peculiar authority from the number of instances upon which it is based, the pictures delineated upon the sepulchral stones, and even the arrangement of the articles placed around the deceased in the tomb, made up a veritable inscription bearing a definite meaning, and sometimes having the effect of an appeal which should procure resurrection. The way in which the elements acted in order to produce resuscitation was in some degree represented.

The predominant influence and indispensable element is the god who is the author of all life, and who is invariably represented as the sun, that is, by the characteristic picture of the circular disc formed either by a single line or by several concentric curves.

When the circle is coloured, as in the Egyptian hieroglyphs, the centre is painted red, while the disc itself is yellow, the actual coloration of the sun being thus reproduced. When the drawing is not coloured, the bright portions are represented by dots or shading.

This picture of the sun is in most cases surrounded by an aureole of little circles, each dotted in the middle, which represent solar doubles and become so many life germs; or else the sun gives off rays composed of identical balls of life, all travelling in the direction of the mummy in order to fill it with the breath of a new life.

We encounter a similar notion upon a large number of Gaulish monuments, upon which is depicted the creation of human beings and even of animals, by means of divine germs, each of which is despatched to give life to a particular organ. In the majority of cases the creation of a new being, by the incarnation of a divine germ in a physical body, is indicated by a round spot placed in the centre of a crescent. As a general rule the germ of life emanating from the sun is depicted, like the sun itself, by a round disc with a dot in the centre; but we also meet with other appropriate symbols, such as sparks and pointed flames, reminding one of mysterious fire, which is also a manifestation of divine activity.

These pointed flames, curling upward in spirals, are the originals of a whole category of lines and figures still employed in decorative art.

This symbolical ornamentation so frequently resorted to in Egypt is not, however, restricted to that country. It is likewise to be met with in Greece upon the stelæ surmounting sepulchral monuments. According to M. Ravaisson, these stelæ were erected above tombs in order to represent that which remained of the dead, and arrest the semi-material soul, after the fashion of the open chamber of an Egyptian *mastaba*.

In certain inscriptions the stela itself speaks in place of the dead, in whose name it received religious worship, fulfilling in some degree the same rôle as the double among the Egyptians. As a rule the stela was decorated with a palm which became the divine symbol, the representation, and the dwelling-place of the soul itself. The tapering, flame-like palm leaves carry the soul toward heaven, where it is transfigured and becomes "such and such an Osiris," according to the phrase so common upon Egyptian grave-stelæ.

On certain stelæ there is a half-length portrait of the deceased, surrounded with acanthus leaves, which develop by degrees into wings. M. Soldi is able to instance an ancient vase, at present deposited in the Naples Museum, upon which we observe the bust of a man bearing two wings, and just beneath these and parallel to them the acanthus leaves, not unlike wings in process of formation.

Granted this notion of a resurrection, it has been maintained that an entire category of sepulchral monuments owe their erection and form to the desire to place upon the tomb an eternal fire, represented in painting or in metal work of creative flames symbolized by a particular kind of palm leaf.

We shall not further dwell upon the interpretation of the sacred language, despite the keen interest attaching to the examination of the many symbols studied by M. Soldi, especially the "nedj," which originally was the revolving drill set in motion by the friction of a simple cord for the purpose of obtaining fire, an emanation of Agni, but was later confounded with the cross, itself regarded as a symbol of life.

It will be sufficient to point out that, in the unanimous affirmation of all the symbols thus bequeathed by the sacred language, the idea of the resurrection has invariably inspired the various races of mankind from the dawn of their history. Be this as it may, it is interesting to sum up the philosophical notion which results from the examination of these prehistoric monuments; we shall proceed to do so, still taking M. Soldi's works as our guide.

According to this notion, the monuments of antiquity may all be regarded as hymns in honour of the sun, the creative and regenerative power which is the source of all life on earth. The monoliths of the Celts, the obelisks of the Egyptians, often adorned too with the solar disc, are emblems of the sun's rays, the spreading of which is figured by the pyramids.

If we direct our attention more especially to such a work of art as the Greek temple, we can discern in it again a rendering of the solar drama. Such an interpretation was certainly admitted by the ancients, and we find it referred to in the work of Vitruvius.

The eternal god, or sun, is represented by a radiant disc or acroterium surmounting the pyramidal pediment of the temple. Heaven is figured in the bas-reliefs ornamenting the pediment, while lower down we have in the architrave the line of separation between heaven and earth; lower still, in the metopes and triglyphs, we see the lightning rending the clouds in order to bring down fertilizing rain and carry the creative germ down the temple columns to the soil.

Let it be added that the corpuscles or little animated spheres, which are indispensable agents for the maintenance of life, bring about the agglomeration of matter to form bodies. They are carried round in a complex rotatory movement, during which they can attract, retain, and in some way absorb the atoms of matter, which they agglomerate and bring into some definite form. These spheroids are particles emanating from the solar god, and possessing life like him; although they are less active, they share in its essence. It may thus be said that the constant action of this divinity is affirmed wherever the sun's light penetrates; it surrounds with a living atmosphere the beings which he has created, and transmits to them special germs containing life in themselves; it is constantly emitting these animate spheroids which permeate living bodies, while these latter radiate spheriods in their turn which go back to the common centre. Life is thus maintained by an invisible series of expirations and inspirations,

by an uninterrupted exchange of cosmic radiations sent to us by the sun.

This is, moreover, a conception which has been to a certain extent revived under another form by modern science in the theory of an incessantly vibrating etheric fluid which it views as the source not only of all energy, but of all matter. A curious return to the primitive traditions of mankind.

CHAPTER III.

SAVAGE TRIBES.

Customs of Savages resulting from the Universal Belief in Survival. Embalming. Cannibalism. Slaughter of Aged and Infirm Relatives. Metempsychosis. Division of the World into Infernal Regions and Blessed Regions. Independent Elements in the Human Soul as viewed by Fijians, Greenlanders, Algonquins, Polynesians, Malagashes, Dakotas, Siamese, Konds, and Burmese Karems.

FROM the remotest times primitive peoples have believed in the survival of the human soul. We have seen how their hopes are plainly written on the rough-hewn monuments which they have left ; how the crude drawings which are our sole evidence of the existence of those peoples at the same time acquaint us with their faith. In subsequent chapters we shall pursue the evolution of this same idea among the great races of antiquity which have left bright tracks in the history of man. But, before so doing, it will be of interest to round off our survey of the original conceptions of mankind with certain observations regarding savage races at the present day. We can gather from them some notion of the mental attitude of primitive peoples, and their semi-superstitious beliefs in an invisible world present us either with a spontaneous manifestation of man's innate instinct or else with the echo, but little dulled, of a revelation not yet forgotten.

Travellers unanimously agree that uncivilized peoples, while admitting that death overtakes the physical body, believe that an immaterial element survives to continue its existence in an unknown world. It would thus appear that faith in the survival of the soul forms the general belief of mankind, although it may present itself under quite dissimilar and even contradictory

guises. More or less marked, its influence can always be traced upon the traditional customs, even when those customs are seemingly quite alien to it and result in crimes which cause us horror, such as cannibalism, the killing of aged or infirm relations. So true it is that the idea of a future life, which has contributed the best part to human progress and dictated great acts of self-sacrifice, has, when wrongly understood, called forth excess of evil where its desire was to encourage the love of what is right. We might point to analogous examples even in our own civilization. The barbaric exclamation of the slayer that "God will be able to recognize His own," when he puts his victims to death haphazard, is but a false application of a doctrine, becomes as mischievous through perversion as it was originally pure in principle.

The idea that the disembodied soul continues to inhabit the immediate vicinity of the physical body leads naturally to a desire to preserve the corpse, as far as possible, so that the soul may not be constrained to abandon it entirely, and may, if it be not destroyed, reanimate it upon the judgment-day. It was this thought which caused the Egyptians to embalm the bodies of their dead with such care; the idea was also common to the Peruvians, descendants, perhaps, like them, of the inhabitants of ancient Atlantis; they, too, reverently preserved the mummies which they obtained by desiccating the dead in the cold dry air of their high mountain-tablelands. It is with similar intent that divers savage tribes, such as the Papuans of New Guinea, carefully preserve the dried bones of their ancestors, especially the skull and the first two vertebræ. After the body has lain in the earth sufficient time to bring about the destruction of its perishable parts, they exhume the bones, and use them, with great reverence, to decorate their dwellings and clothing.

Since savage tribes believe that the soul, despite its independence of the physical body, cannot at the same time entirely quit it, it is hardly unnatural that they should come to think the best sepulture which a body can receive is to re-embody the dead man immediately

in a living being, who, while assimilating the flesh, will likewise absorb the moral qualities of the soul thus brought within his reach. Thus they come to believe that the highest honour bestowable upon deceased relations is to revitalize their bodies by eating them at a solemn banquet. Such a custom is current among savage races ethnologically and geographically remote from one another. M. Gasc-Desfossés tells us that it has been discovered in Australian Queensland, in New Zealand, in Central Africa, etc. It is known also in the Ladrone Islands, where the natives burn the flesh and then soak the ashes with cocoa-spirit. These examples, which might readily be multiplied, suffice to show how the terrible custom of cannibalism unexpectedly attests a belief in survival.

The notion may be carried still further. If it be admitted, as certain tribes do admit, that the soul, upon its arrival in the other world, possesses the strength, energy, and will which belonged to it at the moment of death, the obvious deduction is that it is preferable for it to quit the body in its prime, rather than to await decrepitude, which destroys the faculties and leaves but a weak victim unable to battle with the unknown powers of the world beyond. The greatest boon which can therefore be conferred upon an old man is to take his life while he yet retains some strength; and we thus arrive at a usage which seems to us hardly less horrible than cannibalism, namely, the slaughter of aged and infirm relations. This is, indeed, a ceremonial crime, prompted entirely by filial affection labouring under a false conception of survival. From ancient authors we gather that this custom was in vogue among peoples who, for all that, attained a certain degree of culture. Herodotus relates that the usage existed among certain Indian tribes, while Strabo records it as belonging to the Irish and Massagetæ.

Metempsychosis is another form of the idea of survival which was generally believed by ancient races, as we shall have occasion to remark later; it is also common to many savage peoples, such as the African negroes and the American Indians. It is said that both the

Algonquins and Mongols, racially so far apart, used to put the dead bodies of their children by the roadside, in the hope that the soul of each might become re-embodied in the yet unborn child of some wayfaring woman. This custom still persists among the Malagasy.

A belief in the existence of spirit, or of a world beyond the grave, divided into infernal regions and blessed regions, evidently indicates a faith in survival; it is to be found among all savage peoples as among civilized races, whose religious doctrines it prompts. We shall make no endeavour to recall the superstitions to which it has given rise, for they are practically numberless. We shall confine ourselves to mentioning the ideas which certain primitive peoples have held concerning the nature of the human soul, in which they distinguish independent elements in some degree corresponding to the various faculties, just as did the ancient Egyptians.

The Fijians ascribe two spirits to man, says M. Bourdeau in "Le Problème de la Mort"; one is the shade, or black spirit, the faithful companion of the body, and it is buried with him; the other is the light spirit, analogous to the image seen in reflections, and it haunts the vicinity of the body. Greenlanders also imagine that they possess two souls, the shade, which they think quits the sleeping body at night in dreams, and an aerial spirit, or breath, which leaves the body only at death.

The Algonquins believe in the survival of two souls, one of which resides in the proximity of the body and receives all offerings of food, while the other returns to the land of its ancestors. Many Polynesians distinguish a soul, *sogho*, which is the vital principle, and a shade *luwo*, a species of tutelary spirit which departs to another world, but leaves behind it upon earth a spectre, termed *noali*. According to the Malagasy belief, one of their souls, the *aina*, is converted into pure air; the second, *saina*, vanishes at death; and the third, or *mastatoa*, wanders in the neighbourhood of the grave in the shape of a ghost.

The Dakotas in America, the Siamese, the Konds in Asia, and many Polynesians admit the co-existence

of four souls, which at death are separated. One remains near the body, as did its shadow; another is dispersed into the air like breath; a third goes back to the village, where it appears to the survivors in the visions of sleep; the last goes to join the spirits far away. Finally, we should notice the Burmese Karens, who, in their soul or double, distinguish as many as seven entities, each of which survives independently.

It is scarcely necessary to draw attention to the very interesting analogy between these crude conceptions and the belief in ghosts and spirits still so common among Christian populations. The analogy with the religious ideas of the Egyptians and with the theosophical doctrines is even more striking. These also are based, as we shall see later, upon the notion of the complexity of the immaterial portion of man.

CHAPTER IV.

THE CHINESE.

Influence of the Survival Notion on the Development of Ancient Civilizations as exemplified in the Chinese. The Origin of Ancestor-worship among the Chinese, Hindus, Greeks, and Romans. The Family System founded by Confucius. His Sacred Books. His Contemporary Philosophers: Lâo-Tsze in China, Pythagoras in Greece, and Sakya muni in India. Lâo-Tsze's Belief in the Survival of an Individual, Conscious Soul. Composition of the Soul. The Necessity for Correct Funeral Rites and Offerings to the Dead. Chinese Horror of being deprived of Obsequies. Swords and other Pointed Articles used by Ancient Nations to drive away Importunate Spirits. Analogy between the Chinese Funeral-tablet and the Roman *Imagines*. The Part taken by Departed Spirits in all Family Matters. The Son's Duty to continue the Daily Ceremonial for the Happiness of his Deceased Father. How the Law provides Heirs for Men who have no Sons.

IF savage tribes furnish us with evidence at the present day of how powerful an influence the vague belief in a shadowy survival may have had upon the development of early man, the Chinese, on the other hand, present us with the living example of a social system which has now elsewhere vanished, but which was that of the principal civilizations of antiquity in what we may term their Heroic Period.

During the five-and-twenty centuries which sunder us from their foundation, those institutions have remained immutably identical, and have passed unaltered not only through ages of time, but through historical vicissitudes—a proof of their extraordinary vitality which rouses the wonder of foreigners. Nothing so far has succeeded in shaking the deserved respect in which they are held by the four hundred millions of men governed by them, and we can understand the fine contempt which their representatives instinctively

entertain for our Occidental civilizations and their constant ferments. They think, and perhaps rightly, that the material progress of which we are so proud has been too dearly bought at the price of moral deadlocks of every kind, which they have so far been able to avoid while still preserving the ancient notion of survival.

No doubt the Chinaman of the present time allows himself in daily life to be completely engrossed by material needs, and he seems to reck little of a future life, all notion of which might at first glance appear to be quite alien to him. None the less is it true that each one of his fundamental institutions is based exclusively upon the idea of ancestor-worship, and has been given its present turn by the primitive conception of its founders, which tallied moreover with that of all prehistoric races.

Confucius and Lâo-Tsze, who lived in the sixth century before our era, discovered among their compatriots the same ideas which then dominated foreign civilizations. They were at one with Hindu, Greek, and Roman in believing that the souls of ancestors really enjoyed an impersonal after-life in the world beyond, and that they became blended together so as to form a kind of collective family-soul. This soul remained, however, in the closest possible union with its offshoots, enjoying terrestrial life, and owed its very existence to their uninterrupted offerings. Should the sacrifices come to an end, either through culpable neglect or the extinction of the line, the soul was destined to perish.

Out of this conception the Chinese philosophers built up, as we shall see, a family system which, by a unique anomaly of history, has continued to the present day. It must, however, be supposed that this wonderful persistence is in great part due to the fact that the Chinese people have never been willing to rise above the original rudimentary notion, and have never attempted to deduce from it the conception of a personal after-existence in which the acts of the present should meet their due, as Occidental society has come to believe under the influence of the Christian dogma.

Any such doctrine is practically unknown in the *Jon-Kiao*, the religion founded by Confucius; and although the two other forms of worship generally practised in China, Tâoism and Buddhism, accept the belief in more precise terms, nevertheless it is completely disregarded by present-day Chinamen, whatever may be the particular creed to which they adhere. Hence it may be inferred without doubt that the collective cult of ancestors as practised in China is connected in some aspects with the fetichism of primitive peoples; but, on the other hand, one cannot ignore the fact that it lends definite affirmation to the notion of survival, and testifies strongly in favour of the unanimous agreement of all ancient civilizations as to this fundamental principle.

We shall reproduce several passages from the sacred books of Confucius and Lâo-Tsze which clearly speak, at all events, of abstract immortality, while it will be seen that some appear to imply individual survival, as has been acknowledged by certain commentators. Subsequently we shall summarize the Chinese conception of the human soul, to which we shall trace the characteristic institutions common to China and the whole of antiquity.

Kung-Fu-Tsze (551-479 B.C.), the great philosopher, who to the Chinese is still the unquestioned Master, was the founder of that ancestor-worship which is the typical characteristic of the Chinese social system. But if in practice he made it the means to achieve important social ends, he almost constantly refrained from vindicating it from a metaphysical point of view by laying down any theory at all formal in character as to the nature of the human soul. He generally confines himself to giving maxims for daily conduct, to setting forth the practice of filial piety, to inculcating the worship of ancestors. Their conduct he holds up for imitation. He recommends his disciples to read holy books, warning them at the same time to avoid philosophical speculations, which vex the spirit and disturb social order. The *Yih-King* or *Book of Trans-*

formations, which probably dates from before Confucius, but which he at all events rehandled and sent down to posterity under his name, contains a few exceedingly obscure passages alluding to the doctrine of an immaterial soul distinct from the body. Commentators have up to now found the greatest difficulty in disentangling this doctrine with any certainty. We may, however, quote the following passages, which would seem to summarize the views of Confucius upon the nature of man. Thus it is written in the famous *Ta-Hio* (*The Perfecting of Oneself*), the King *par excellence :*

" Man is produced by the action of two contrary elements, Yang and Yin, upon a portion of the substance of the parents, the germ. These two universal agents of nature develop the germ, and cause it to assume a form. Henceforth it is a living being, but not yet homogeneous ; it must yet be endowed with intellectual substance, wherewith Heaven blesses it in order that it may perceive, compare, and judge. Death is not destruction properly so called, but a decomposition which resolves each substance into its natural state. The intellectual substance again ascends to heaven from which it came, the animal spirit, *Khi*, unites with the aerial fluid, and the terrestrial and aqueous substances turn once more to earth and water."

Here we find, asserted in so many words, the existence in man of an immaterial principle beyond the reach of death, and Confucius as a matter of fact sees in survival the foundation of ancestor-worship.

" They are," he says, " everywhere, above us, to right, to left, and they encompass us on all sides. These spirits however, for all that they are subtle and imperceptible, make themselves manifest in the corporeal form of beings. But, by the very nature of their essence, they cannot manifest themselves independently under any real form whatever."

From these passages it is not possible to tell to what extent the disembodied spirit preserves consciousness of its former state.

Lâo-Tsze, the founder of Tâoism, was a contemporary of Confucius. He was a far more idealistic philosopher, and introduced into China lofty metaphysical conceptions analogous to those promulgated about the same time by Pythagoras in Greece and Sakyamuni in India. The simultaneous appearance of these great philosophers,

bearers of a probably identical doctrine to absolutely dissimilar peoples, is one of the most remarkable incidents of history. All three of them attached themselves to those fundamental conceptions which we always encounter at the dawn of civilization.

The Philosophy of Lâo-Tsze is contained in a work most difficult to interpret, the very title of which, *Tâo Teh King*, has given rise to endless controversy, Pauthier, who furnishes this translation (supported by M. L. de Rosny), remarks the similarity between the word Tâo and the Greek Θεὸς. According to M. L. de Rosny we are to look upon Tâo as primordial reason, the λόγος of the Neoplatonists, which is the immutable aspect of the divinity; and we are to see in Teh the creative activity, the eternal γιγνόμενον, which is, as it were, the variable aspect of the Creator, viewed through the material world which he has made and which he continually maintains by his power. In the philosophy of Lâo-Tsze we thus meet once more with the notion of a divine trinity, the *Trimurti* of the Hindus, which also appears in the great primitive religions, and was later taken up and magnificently expanded by the Neoplatonic school. This brief sketch, which is all that we can give here, suffices to show the importance which attaches to the teaching of Lâo-Tsze, that is, to *Tâoism*, in the history of thought; and considering the power of conception which it displays, we can understand the conclusion of M. L. de Rosny that it could only have been the work of a single man in a country where the labour of many generations had prepared all the ways. We are indeed able among Lâo-Tsze's predecessors to point to actual precursors of his doctrine, showing that the same notions, more or less veiled, are to be met with among the Chinese as among the races of antiquity.

From this standpoint, and as a curiosity, let me quote the following passage from Yen-Wei-Tsze, the immediate follower of Lâo-Tsze, from which we can infer that the Chinese already possessed advanced astronomical knowledge: "The Earth and Heaven are carried through space and interpenetrate one another."

Like all preceding philosophers, Lâo-Tsze distinguishes opposite elements in the human soul, one spiritual, *huën*, and the other semi-material, *phi*. The *huen* is the subtle male principle, the intellectual soul, divine in its essence, which can move anywhere and does not perish; it is united to the vital soul, the sentient principle, *phi*, and between them they animate the human body. The intellectual soul is an emanation of the *tâo*, to which it returns after death, being thus akin to all beings which appear in life, for each of them returns to its origin after having fulfilled its destiny.

"Not to know that one becomes immortal," says Lâo-Tsze, "is to be given over to error and all sorts of calamities.

"That which is subtle and spiritual in man is the portion of heaven; that which pertains to flesh and bones is the portion of earth."

Lâo-Tsze makes no explicit statement as to the survival of consciousness. The majority of commentators are agreed in recognizing that it is involved in the notion of the perpetuity of the life-giving principle emanating from the Tâo, as Lâo-Tsze teaches it.

We find confirmation, moreover, in certain quotations from the works of his immediate disciples.

According to *Si-Haei* the breath of life is dispersed, but the spirit, the soul, the divine principle of intelligence, is preserved after death.

Elsewhere:

"There is no absorption of the individuality into the tâo, because individuality is not entirely perishable."

Chuang-Tsze, who lived in the year 338 B.C., says, "Death is the commencement of life."

As far as regards the notion of eternal life, we may add that tâoism also regards it as destined to reward the deeds of the present life. The Book of Rewards and Punishments speaks of heaven and hell, and after briefly touching upon Nyan-Lo, the Western Paradise, the place of pleasure, minutely describes, in all their fearful detail, the eighteen kinds of punishment awaiting the wicked in hell, as well as the particular kinds of sins for which each is prescribed.

Like Buddhism, Tâoism teaches metempsychosis, which also implies personal responsibility beyond the grave. We shall see later that the Chinese suppose the *huen*, or superior soul, to remain fixed to the tablet assigned to it in the hall of ancestors. They admit, however, that the souls of the deceased can at least temporarily unite in a common gloomy dwelling-place, at the Yellow Fountains, *Hoang-ti-nan*, which recall the Hebrew Sheol or even the Elysian Fields of the Greeks.

In accordance with Confucius and Lâo-Tsze, the latter-day Chinese generally admit, as do the Annamese and other Far-Eastern peoples, that the human soul consists of three distinct parts, each having its seat in a particular organ of the living body, and renewing its independent existence after death. One is semi-material, and is usually situated in the belly. This is the kuei, which is united with the body of the dead, and remains in or near the grave.

The other two elements are purely fluid. They are the soul of the passions, or *ling*, situated in the chest, and the rational soul, or *huen*, which makes the brain to operate. They quit the corpse at burial and return to the family dwelling in the folds of the banner borne by the dead man's son. They henceforth remain in the sepulchral tablet sacred to the deceased, and are generally considered as blended into a single soul, the *huen*.

The semi-material soul, or kuei, is an unconscious phantom destined to occupy the grave, as we have said ; but it cannot find the needful repose, unless the funeral has been duly carried out, the position of the tomb rightly chosen, and its orientation correctly made, and unless the descendants come regularly to bring their due offerings. If a single essential condition be omitted the kuei is robbed of repose, and does not hesitate to haunt the living, whom it torments until fitting reparation is made.

These apparitions, which are always fired with hostile

intent toward the living, are much dreaded in Eastern countries, and we at once see why the Chinese, like the ancients, attach such importance to burial. In their view it is a question of prime importance, giving rise to the nicest calculations, for the Chinese do not unite all the ancestors in a common grave. The position of the tomb and the date of interment have to be fixed for each individual, his particular case taken into account, and all possible occult influences allowed for. This necessitates minute investigation and the assistance of seers of great repute. Solemn funerals are consequently not held immediately after death, but often several months afterward, when the influences are deemed opportune. Despite every care it sometimes happens that the kuei finds no peace, and it becomes necessary to shift the grave, as the seers direct.

Deprivation of burial has always been viewed in China as the height of misfortune. Condemned prisoners do not hesitate to choose death rather than certain punishments, which, though sparing their life, would prevent their receiving due burial rites. Decapitation, which precludes the performance of proper obsequies, is more dreaded than strangulation. It is with the same idea that the Chinese insure the burial of those dying far from home. A wicker dummy is prepared, in which the soul of the deceased is called upon by a medium to take up its abode. The dummy is then buried with all the honours which would have been observed with regard to the actual remains.

Concerning the dreaded apparition of the kuei, it should be mentioned that the best way of avoiding their attacks is to stand at a distance and threaten them with a sword, or generally with any pointed article ; and it has been advanced with great likelihood that eagerness to avert evil spirits by the interposition of points has contributed in large degree toward that peculiar manner of roofing large buildings, private houses, and especially pagodas, which is so constantly met with in the Far East. It is also interesting that this same belief in the potency of points is common to all ancient civilizations. Homer informs us that Ulysses,

after having gone to consult the shade of the soothsayer Teiresias, was forced to ward off the too importunate spirits with his sword. This, moreover, is a point in which modern science agrees with ancient belief, for science tends to assimilate the transmission of externalized odic fluid with that of the electric current.

The Chinese believe not only in the appearance of these unconscious phantoms formed by the kuei, but also think that it is possible for the soul to appear in all its integrity, owing to the return of the huën. This, however, is an entirely exceptional phenomenon bordering on the miraculous, for it requires that the two other more subtle elements should leave the home of ancestors and reunite with the semi-material soul from which they had parted at death. The manifestation is then conscious, constituting a complete temporary resurrection, and can occur only to convey communications of the utmost gravity.

The thought of death does not disturb the Chinese. He has his coffin always in readiness, and as the fatal moment draws on, he is clothed in his burial garb, while a silken double, which is to catch up his subtle soul at the moment of its release from the body, is prepared. This double is afterwards carried to the grave with the corpse, there to remain until the solemn obsequies, in order that it may take firm hold of the soul of the dead man, whose son then brings the soul home to the funeral tablet, which is henceforth its everlasting habitation.

This tablet plays an analogous part to the ancestral *imagines* preserved by the Romans ; on it are inscribed in golden letters the principal dates of the dead man's name, his life, that of his sovereign, and, in addition, the word " Chin-Wei," meaning soul-dwelling. The huën thus imprisoned takes its place henceforth amongst the souls of the ancestors, inhabiting with them the funeral-hall, wherein the commemorative tablets are arranged before a holy altar, and in front of the table, round which upon solemn occasions all the relations gather, and which forms the outward sign of the unbroken communion of the living with the dead.

In this chamber the living offer up the ceremonial sacrifices, paper pictures of the articles which the dead may require in the world beyond, or copies of prayers or advice intended to aid them in the struggle against infernal powers. Here on memorial days all partake of a family banquet, the *chavistia*, in which the dead themselves share. Here also all important occurrences are notified to the souls and entered in the Family Book, the *kin-pu*. The souls, on their part, always remain in this chamber so as to be in continual contact with the living. They are present, though unseen, at all family consultations under the presidence of the head of the family, who owes to them the sovereign power of which he is the depositary. Sometimes they make themselves heard, if need be, by the lips of the youngest born, the latest to receive their inspiration. They are informed of birth of new scions, and they hearken to the farewell of the maiden who quits her father's house to enter a new family on her husband's arm. With special joy they welcome the betrothed bride, yesterday a mere stranger, to-morrow to become mate of the son of the house, who, as he leads her in, lays on the altar the symbolic cards bound with scarlet thread which tell of the coming wedding. They look forward already to the children of the future who shall perform the rites ensuring the happiness of souls. Thus in the yonder-world the ancestors draw life, as it were, from the family of their foundation, share its griefs and joys, watch over its fortunes, and feel the counterfeit of that personal existence, not perhaps vouchsafed to them. Last hope of all, they are capable of receiving honour and reward from the State, and of living anew exalted in the esteem of their compatriots, if the descendant whom they have left, and who is but one of themselves, wins by his good deeds that noblest and most prized of all rewards, the ennoblement of his ancestors.

The paramount question is to leave sons behind, seeing that all happiness beyond the tomb hinges on the perpetuation of the family. Dishonoured is the Chinaman who dies without male issue, we are told by M. Abel de Remusat, for no man will perform for him

the daily ceremonial which keeps the dead present among the living. Nobody will come at morn or even to kneel before the tablet on which his name is written ; nobody will burn perfumes, offer him viands, or arrange his garments ; nobody will keep his empty place in the family, stir the soil above his grave, tend the trees which grow thereon, or weep and wail upon his tomb on the anniversary of his death.

The ceasing of funeral rites is the most dreaded of all calamities ; the most terrible chastisement that can befall a criminal is the prohibition of marriage to his offspring, which breaks the line of his descent. The "Historic Annals" relates a particularly striking example under this head. There were two brothers, the elder of whom, being married and the father of two children, offered to die in the place of his young bachelor brother, simply because he foresaw the utter misery of the latter in the future world, since there would be no one to perform the customary sacrifices for him.

It is the same feeling which makes each Chinaman so fervently desire to return and sleep his last sleep in the tomb of his ancestors, so as to participate directly in the ritual offerings of his descendants. Chinese workmen who have emigrated far insist on the condition, when engaging, that their bodies shall be brought home to the land of their birth.

Clearly such a belief in survival sufficiently accounts for the development of institutions based on relationship. For the Chinese of to-day, as for the races of antiquity, the father of the family alone is qualified to sacrifice, and in him is concentrated the authority of the ancestors whom he represents in the visible world. In his family he is the sovereign lord of men and property, he can excommunicate the erring child and decree that his soul shall never receive the prayers due to ancestors. At the same time he is responsible for the acts of all his forefathers, whom he likewise renders liable to such penalty as he himself may incur. From the material standpoint he has only the usufruct of the paternal inheritance, which he cannot alienate. He is bound

to pass it on to his legitimate descendant, who will ensure perpetual sacrifice; and, of course, the rights of each of the members of the family are determined exactly according to the measure in which they can be called on to co-operate with him.

An inheritance descends naturally in the male line, and in principle daughters cannot receive a share. However, they are not in reality so rigidly excluded as was the case in ancient Rome. Sometimes they are admitted to family gatherings, even after their marriage, and can succeed on the failure of male issue.

The prime necessity of leaving male successors being known and accepted by all the Chinese, the law has endeavoured to furnish them with the means of meeting it. It allows them to take wives of the second class—*tsieh*—when the wife of the first class—*tsi*—who remains always the sole mistress of the house, fails to present them with a man-child. Children of such unions are, however, accounted the legitimate offspring of the wife of the first class. Such a custom was not rare in ancient civilizations, and underlies several passages in the Bible; for example, that which deals with the relations of Abraham with Sarah and her servant Hagar. When touching upon the Hindus, we shall find the custom defined in the laws of Manu.

If unwilling to fall back upon this kind of supplementary marriage, the head of a family is enabled to take a son by adoption, who shall enjoy all the privileges of a legitimate child; and Chinese law, like Roman law of old, minutely adjusts the conditions under which an adoption can be ratified. The division of an inheritance is made upon the basis of equality between all legitimate male children, direct or adopted, without regard, in the case of the first, to the status of the mother.

The eldest son, whose duty it will be to carry on the worship of the ancestors and keep the Family Book, receives an extra portion to meet the expenses of sacrifices. This kind of inalienable patrimony, entitled *hang hu* (fire and incense), shows how belief in survival may, in our Occidental societies, have given birth to the rights of the eldest son.

CHAPTER V.

THE EGYPTIANS.

The Influence of the Learning of the Egyptians on that of other Nations. Their Knowledge of Pure Science. Their Knowledge of Astronomy. Their Constant Preparation for the Life to come. Belief in a Fluidic Intermediary between the Body and the Spirit. The Individual Elements of the Soul. Effects of various Foods upon the Soul. Regulations for the Preservation of Purity. Provision for the Support of the Life of the Double. Trial and Final Destiny of the Soul. Metempsychosis for the Wicked only. Monumental Evidence for the Idea of Survival. Creative Power of the Sun. Symbols of the Sun and of the Soul. The first Rough Outline of the Atomic Theory.

THE Egyptian race stands out proud and impassive against the dawn of history. In the midst of barbarous peoples it alone possessed knowledge and culture, and it probably gave the first stimulus to the great civilizations which followed it in the course of ages. The builders of other nations and their great philosophers came to Egypt's sanctuaries in quest of learning, and she bequeathed to them the profundity of her knowledge. Her teachings were not always understood or wholly assimilated by new races, but have left a mark, either apparent or hidden, upon their intellect and traditions. The influence of Egypt is still perceptible to-day. We still preserve many a custom brought thence, especially in astronomical matters. Hence come our distinction of seven days in the week, our recognition of lunar months, our names for the principal stars, the twelve signs of the zodiac, etc.

The deeper we explore that venerable civilization by means of the comparative study of its surviving relics and inscriptions, the more clearly we recognize that upon matters of pure science it had already attained exact

knowledge such as we have but now rediscovered, and that it had already given precise, well-pondered answers to the great fundamental questions which mankind has since debated without reaching any final solution.

Perhaps these Egyptians owed their wisdom to some forgotten forerunners, like those legendary Atlantes swallowed by Ocean in the days of a colossal cataclysm faintly echoed in ancient fable. Whatever may have been the origin of their knowledge it is certain that they already knew of the isolation of the earth in space through which it sailed like the sun and stars. This is distinctly stated in original papyri now in the British Museum, especially in the Harris papyrus.[1] We might also refer to what we know from several authors of antiquity, such as Philolaus, pupil of Pythagoras, quoted by Plutarch, Niketas of Syracuse, Diodorus Siculus, Aristotle, and others, not to mention the famous investigations in the Great Pyramid by Piazzi Smyth, the astronomer. It is well known that he regarded it in the light of a wonderful astronomical monument, for its principal measurements reproduce, as he discovered, the main data of the solar system.

But beyond this profound astronomical knowledge, the Egyptian possessed upon the great problems of the world beyond and the constitution of man a complete body of doctrines which, as it was secretly taught, has unfortunately become lost; but it is interesting to note that it was based upon a general knowledge of the universe which was perhaps never surpassed in antiquity.

No race has ever been so absorbed by the problem of life and death as were the Egyptians. In each one of their acts they seemed to be looking toward the final end; so much so indeed that the present life was for them scarcely more than a preparation for the existence beyond the grave, when, as the books of Hermes taught, the soul should at last be freed from the yoke of matter.

[1] See "Comte-rendu du Congrès provincial des Orientalistes Français," Saint Etienne, 1875.

From what we are told by Diodorus Siculus we know that the Egyptians regarded the dwelling-places of the living as mere transitory hostelries, seeing that we abide therein so short a space; but the graves they called eternal habitations, for the dead remain in the nether world time without end. They consequently took small pains in building their houses, while they constructed their tombs upon the most lavish scale. Throughout their forty centuries of history they were inevitably led to modify in many respects their primitive notions regarding the soul; but upon the fundamental idea of survival they never felt a doubt, always admitting that man contained within him a divine ray emanating from *Ammon-Ra*. This ray they called the *ka*; it is embodied in the flesh, but survives its destruction.

They imagined that the divine ray constituting the spiritual soul acts upon the body through the agency of a peculiar fluid-like compound, in which by degrees they came to isolate several different elements, mutually interpenetrant, and serving as agents for the various faculties of the soul. These elements were as follows, but their attributes are still matter of debate among Egyptologists:

The *ka* is, properly speaking, the ego, the divine emanation, and contains a vital principle made up of two elements—*ab*, conscious will-power, and *hati*, unconscious will-power. The *ka* is enveloped in the *tet* and emits *xaib*-rays, which have a particular odour, peculiar to each race. The form of the immaterial body is called *sahu*—that is, properly speaking, the phantom or double that takes the same shape as the physical body, the airy soul that appears when the dead are evoked.

Other Egyptologists describe the attributes of the various elements differently, and classify these fluidic bodies in order of materiality. *Ka* is the divine spirit; *ab* is the spiritual soul, or intellect; *tet* is the astral body, the agent of passions and desires; *sahu* is the double; *hati* is the vitality; and *xa* is the physical body.

However the case may be, *ab* is the part of the soul which bears the responsibility for the deeds of the

deceased, and it is *ab* which is tried and weighed. Hati, which is placed in the heart, is merely an irresponsible instrument. Porphyry informs us that before embalming a body care was taken to remove the entrails and to place them in a vessel apart, which was then flung into the river. The vessel was first lifted on high to be seen of the god *Ra*, and then before its immersion certain formulæ were uttered by which the dead man cast upon his entrails all responsibility for any possible misdeeds. The following sentence is commonly inscribed on the monuments: "My justice be with his spirit, and the sin with his belly."

This belief in the complexity of the fluid-like elements attached to the physical body caused the Egyptians to bestow especial care upon their food, which they thought capable of producing indirect effects upon the soul itself, particularly upon the element of life proper, and upon the astral body. Thus various vegetable stuffs, such as barley, wheat, and especially beans, were prohibited. Certain writers think that the interdiction of these last was due to an idea that beans were perhaps the refuge for the souls of the dead; certainly they are often employed in magical operations. It is known that Pythagoras also laid down this prohibition, which he doubtless borrowed from Egypt together with the rest of his doctrine. The use of the flesh of a great number of animals was likewise forbidden, as the unclean spirits possibly inhabiting certain kinds were also to be dreaded. It was not allowed that the head of any beast should be eaten; it was to be thrown into the Nile. The anxiety to escape all pollution, which prompted the choice of victuals, is also to be traced in matters of dress. Certain animal products were discarded. Flax was the sole material employed in the manufacture of clothing directly touching the body; it was not permissible to enter a temple or a tomb with even an outer garment of wool.

These different regulations with regard to food, the choice of clothing, and the employment of time, were enforced with especial rigour upon the principal people of the nation, such as the priests, whose duty it was to

be very careful to preserve a state of absolute purity. Owing to their exalted position, their faults involved very serious results, for they might impair the performance of certain holy rites, and thus the guilt would fall upon the whole people. As for the king, he must be pure among the pure, for he was the Horus of the land charged with the uprooting of all disorders and uncleanness. He was, therefore, allowed to eat only certain special things, principally goose-flesh and veal. He was to be satisfied with a single portion of wine, to wear garments of flax only, like the priest, to keep a strict watch upon his thoughts and doings, and to attend to no business save at the propitious hour. It is hardly necessary to add that this constant need of cleanness led the Egyptians to avoid any close contact with foreigners. It was forbidden to sit at their table, to eat of their food, or to drink from their cup.

Proceeding upon the idea that the nature of food assimilated during life exerted an influence upon the condition of the double forming the less refined portion of the fluid-like body, the Egyptians arrived at the conclusion, as did all primitive races, that this double is also sensible of the need of appropriate nutriment for the support of its own existence, and that it consequently continues to inhabit the neighbourhood of the corpse. It allows, however, the more subtle elements to escape and to proceed immediately toward Amenti, there to undergo trial. Children and heirs are bound to support the life of the double, at the same time dissuading it from quitting the tomb ; and this constant anxiety certainly explains, what at first sight appears so strange, the burdensome care with which the Egyptians attended to their dead. Thus they embalmed the corpse with meticulous precautions to prevent its decay and to avoid scaring away the subtle spirit, which they desired to remain close to the dead body. The corpse itself was placed in a closely walled-up cell but a chamber in the tomb was carefully set apart for the sole use of the double, which was invited to take up its residence therein. In order to enliven its perpetual confinement the walls were invariably decorated with

scenes from life, which should remind it continually of its past existence. This chamber was left open, and there upon holy days the children met to do worship to the dead and make offerings to his double, which should uphold it in its enfeebled state.

The fate of the soul is determined in a solemn trial, which takes place immediately after it has been separated from the body of the flesh and from its double. For this purpose it is brought before that dread tribunal sitting in the gateway to Amenti, at the entrance to the nether world, in front of the Hall of the Two Justices. In order to guide the soul in these unknown regions and help it to withstand the terrible ordeal which awaits it, care is taken that a copy of the burial ritual shall be placed in the grave to serve as a sort of viaticum and supply all necessary information. Therein the soul will learn the road which is to be followed, all precautions to be observed, and, above all, the hallowed formulæ to be repeated in order to enlist the favour of the judges, to the end that the dead may see even as do the souls of the good, and that he may hear and be seated like them, according to the formulæ of the burial prayers. Thus strengthened and upheld, the soul appears before the tribunal which is to pronounce its destiny for eternity. It sees the god Osiris girt with fillets and seated on a throne, with crown on head and sceptre in hand, in the midst of a lake of the water of life, upon which float lotus-flowers. By his side are two-and-forty spirits of the nether world, the judges of the dead, who pass sentence on the two-and-forty sins. They wear ostrich feathers as emblems of truth and justice

When led before Osiris the soul entreats to be allowed into the communion of the blessed. It then undergoes an examination, in which it must clear the dead from every charge of sin, and prove that he kept all the rules of purity, and was guiltless of murder or unchastity; that he never offended the gods, or the kings, or his superiors, or his father; that he laid no snare for sacred animals, fish, or fowl; that he never diverted the course of the Nile waters or sought to deceive god or man;

that he never overburdened his servants with toil; that he never starved anybody or caused anyone to weep; that he had avoided sloth and weakness. Only thus can the soul find mercy at the hands of its incorruptible judges.

Thereafter it is weighed in the balance against the ostrich feather of truth and justice placed in the other scale. By the side of the first scale stands the jackal-headed god Anubis, the accuser of the dead; by the second the hawk-headed god Horus; near at hand is seated Toth, who marks the result of the weighing and enters the sentence of the sovereign judge. If the sentence is favourable and the soul is found pure, it receives an ostrich feather, while from the trees of life, the persea and sycamore, Neith and Hathor rain down upon it the celestial moisture which is to regenerate it for all time.

Thus transfigured, the spiritual soul passes through the nether world unscathed by the dread hippopotamus guarding the entry, past a whole series of fearful brutes and monsters, serpents, and crocodiles. Finally it enters the fellowship of the Sun-god Ra. The inscription upon a royal tomb reads: "These have found mercy in the eyes of the great god, and dwell in places of glory, where they enjoy heavenly life; the bodies they have left sleep for ever in the grave, while the righteous rejoice to behold the highest of the gods face to face." [1]

If, on the other hand, the heart of the dead is found to be too light, if he had given himself up to evil living and uncleanness, he is despatched, on his issuing from the entrance hall, into the kingdom of darkness, into hell, over the five-and-seventy departments whereof rule fearful demons armed with swords. An inscription placed above each department relates for what sins the victims are suffering torture and also the nature of their punishment. These guilty souls are black, and are lashed to stakes while their red familiars hack them to pieces with their swords. Others are hung head downwards, or march, headless, in long columns. In

[1] Champollion's Letters.

yet other places souls may be seen dragging after them the heart which has been torn from their bleeding breasts.

It would be interesting to complete this survey of Egyptian eschatology with an exact account of the interpretation which the Egyptians gave of the dogma of metempsychosis and of the part which they considered it to play in the future life. Unfortunately, we are still not in a position to do so. It would, however, seem likely that the souls of the righteous were *not* called upon to undergo reincarnation in the body of another man, much less of an animal. The drawings on graves always depict the souls dwelling happily in the centre of the sun, while their bodies still sleep in the tomb. We should note, however, that the Egyptians believed in a final resurrection, when man was to rise again in all his completeness. This favour was limited to the righteous. The purified soul was to return to the body which it had inhabited during its earthly existence, and was to pour into it the breath of life, subsequently leading it away to the heaven of the blessed.

Re-embodiment in animals was doubtless entirely reserved for the souls of the wicked, and even then the animals must have been unclean, seeing that the others were deemed sacred and capable of receiving a divine spirit. This, however, is a point of which it is difficult to give an explanation at present, for we cannot understand upon what motive the Egyptians approved of offering divine honours to certain animals, such as the ox Apis.

Perhaps we should believe, as do certain writers, that these animals stood only for mere symbols of divinity, and formed, in fact, a kind of living statues better able than an inanimate object to manifest that divine essence inhabiting every man.

Whatever we are to believe as to their conception of metempsychosis, we can at any rate be certain that faith in an after-life was implicitly held by all the Egyptians. It has influenced all their institutions,

supplied the motive of all their doings. All the accounts of ancient Egypt which have come down to us are at one upon this point. But it is useful to show how these receive confirmation in the monuments, the meaning of which has been forgotten. This is but a fresh appreciation of the general method contrived by M. Soldi for the study of the so-called holy language of prehistoric remains, and which led to the curious observations mentioned in Chapter II. By means of this method we get, as it were, a living insight into the fundamental notions entertained by the Egyptians as to the way in which life is perpetuated in the universe, and as to the *modus operandi* of immortality. They had, in fact, the same general conception that was formed by primitive humanity, according to the works of M. Soldi.

The Egyptians, like primitive man, viewed the sun as the sole creator, acting by the emission of germs charged with his creative power—germs that in their turn bring about the evolution of beings by inducing the conflux of the atoms suitable for the production of the required type. The creative power of solar germs likewise acts upon the bodies of the dead, insufflating them with that life which is to bring about the resurrection. This is a process which we find constantly represented in the hieroglyphical paintings. In some pictures we see lines of divine germs travelling toward the principal organs of the mummy about to be resuscitated, upon whose heart is to be observed the creative symbol, the sun itself, denoting the awakening soul. In yet other drawings the soul is figured by a circular germ placed in the middle of a crescent, the *kert*, symbolizing the body, into which it penetrates as into a cave. Occasionally the return to life of the mummy is typified by a libation of water. The outpoured liquid is looked upon as being of the very substance of Osiris, the life of the soul, and it is symbolized by the hieroglyph meaning life.

At other times the soul is denoted by certain animals, which typify the idea of the transformation brought about by death. Thus among the insects are encountered the butterfly, the metamorphosed cater-

pillar, a very appropriate symbol indeed wherewith to represent the freedom of the soul as it bursts from its terrestrial prison-house, as does a winged insect from the chrysalis. Thus, forming the hieroglyph for "generation" we find the scarabæus—*kephra*—which buries itself in the earth during the six winter months in order to appear again in the following Spring. Then there is the bee, which also finds its place among the hieroglyphs; and certain birds are also employed, whose chief characteristics are the head lit up by its central eye, and the prominent beak. The outline pictures derived from the heron, the crane, and the hawk sufficiently remind one of the solar hieroglyph, composed of a circle with central dot, and having a triangular flame protruding from the side.

Elsewhere we meet with the egg—*omphalos*—the envelope containing the god, the future entity, and this symbol is itself often represented by serpents interlaced; for snakes are considered as the fertilizing element *par excellence*. This symbol is also to be met with among the Gauls, and it is well known that the Greeks were acquainted with it, for it formed part of the *caduceus* of Hermes.

Whatever the case may be, it is interesting to remark that the Egyptians represented resurrection by the concourse of the proper atoms, thus giving us the first rough outline of that atomic theory to be expounded later by the Greek Heracleitus, which still forms the basis of modern scientific ideas.

CHAPTER VI.

THE HINDUS.

Ancestor-worship among the Hindus. Interdependence of the Living and the Dead. Similarity between the Laws of the Chinese and of the Hindus for supplying Heirs to Men who have no Sons. The Soul's Destiny as stated in the Laws of Manu, and in the Vedas. Metempsychosis the Cause of the Hindu's Reverence for all Living Things. The *Moksha* of the Brahmins, the *Nirvana* of the Buddhists. Extracts from the Sacred Books on Reincarnation. The Theory expanded in Hindu Poetry. Abhorrence of the Hindus for Reincarnation. Asceticism and Meditation the best Means for shortening the Cycle. Reincarnation the Basis of Caste. The Buddhist Doctrine of the Brotherhood of Man. Antagonistic Views of the three Principal Schools concerning the State of the Soul after Death. Hindu View of the Composition of the Soul similar to the Egyptian. Classification of the Soul's Elements. Yama, Arbiter of the Soul's Destiny.

THE idea of immortality, at least in the abstract, is, so to speak, inherent in the Hindu mind. It forms the basis of all the philosophical speculations and religious beliefs of that meditative race, which, though it has lost itself in contemplation and in giving birth to diverse systems, has always retained unwavering faith in the reality of an invisible world, the scene of after-life.

At the outset of their history the Hindus also, like the rest of primitive man, were believers in collective ancestor-worship. Their present religion, sectarian Brahminism, still regards the souls of the forefathers as obliged to protect the descendants, and calls upon them to do so. The souls are *pitri*, dwelling in the sun, where they enjoy a greater or less degree of purity, depending upon the deeds of their past life. They are distributed into seven distinct classes, of which the first three alone contain the pure spirits; whilst in the other four the spiritual element, not yet completely

freed from matter, remains surrounded by a kind of half-fluid envelope, more or less dense.

The first progenitors of mankind, who discovered fire and invented sacrifice and prayer, are the demigods *rishis*, residing in the starry constellations, which they are severally commissioned to govern.

Manu, the great legislator who established the fundamental institutions of the Hindu race, informs us that to be admitted to heaven man must rely only upon the efficacy of the sacrifices which it is the duty of his son to offer on his grave, and the unhappy wretch that arrives in the mysterious darkness of the other world and has left no son behind him is like the mad fisher who trusts himself rudderless upon the measureless deep and yet thinks to reach the haven.

The funeral ceremonies and banquets—*sradas*—are particularly pleasing to the souls of the departed, and Manu minutely regulates the way in which they are to be carried out. The father of a family must invite the holy Brahmins thrice yearly to perform the solemn rites, but he must not omit to offer daily the prescribed sacrifice forming part of the five oblations. During the repast the Brahmin divides the consecrated cake among those present, beginning with the Brahmins and then passing on to the members of the family in order of precedence, at the same time uttering the following words: "May this hallowed food make your bodies pure, and may the pious prayers you are about to offer open heaven—*svarga*—to the souls of your ancestors."

The head of the family then calls by name upon all the deceased forefathers, from the grandfather of his grandfather downwards. The grateful manes thereupon put up the following prayer on behalf of their living posterity:

"May our family remaining upon earth wax continually in numbers, and become exalted through generosity, virtue, and adherence to the revealed truths.

"May the sons and descendants of our sons never fail to offer us rice boiled in milk, honey, and clarified butter, on the thirteenth day of the moon, at the hour when the shadow of the elephant sinks in the east.

" Each ritual oblation made by a son pure of heart cleanses the souls of his ancestors and earns for them happiness unending in the other world."

In their anxiety to ensure the perpetuation of the family, the laws of Manu also prescribe that the Hindus shall acquire children by adoption if they have none by legitimate wedlock; and they also allow them to seek children from extra-conjugal unions, which must, however, be contracted with due observances. This provision is so far analogous to that of the Chinese which we have already mentioned, but it goes on to contemplate the substitution of a brother or a close relation for the husband. The child born of such a union is reputed the issue of the husband, and the wife is not permitted to renew the union.

When a husband dies without issue, we meet with an analogous provision, which is also to be found in the Bible: " Let the young wife whose husband is just dead be married anew by the husband's own brother (or in default of such, by the nearest relation) as if she were still the wife of the dead brother; and the child born of this union shall be held to be the son of the deceased."

Side by side with these institutions characteristic of collective ancestor-worship, the early Hindus already believed in a species of semi-conscious immortality involving responsibility for the deeds of this life, and out of this belief they evolved the doctrine of metempsychosis, which was afterwards adopted by all their schools of philosophy.

Already in the laws of Manu appeared the following assertions:

" Man is born alone, dies alone, and alone is rewarded for his good deeds or chastised for his wickednesses.

" So soon as his mortal remains have been given over to the fire or the earth, like a log or a piece of clay, the relations leave him, but virtue follows his soul.

" The body, of which the bones are the timbers, is subject to age and decrepitude, sorrow and sickness, and should be left with joy by the righteous.

" All will vanish in earthly corruption, alone the good deeds of the soul shall not perish.

" But the heavenly dwelling is to be won only by meditation on the divine essence. Even as the tree fallen in the river follows the stream which sweeps it along; even as the bird spurns its nest and soars to the skies, so shall the soul soar to the dwelling of Brahma, casting aside its perishable raiment."

The Vedas, on the other hand, which are the most ancient and venerated of the holy books, the fountain-head of truth and law and science, likewise proclaim that death does not wholly annihilate man, for the bodies which come to an end enfold an eternal soul, indestructible and unchangeable.

" When the man is smitten of death, his breath goeth back to Vaya, his life to the sun. But there remains of him that which is undying. It is that, O Agni, that thou must warm with thy rays, fire with thy flames, O Jatavedas. In that glorious body which thou hast made, carry it to the world of the righteous."

Elsewhere the Vedas speak in these terms of the fate of the soul after death :

" The soul hieth to the world to which its deeds belong. It goeth to the world of the sun, if it hath done deeds that lead it thither; it goeth to the world of the Creator, if it hath done deeds that lead it to the world of the Creator."

This faith in survival, underlying every output of the Hindu mind, was completed by the doctrine of metempsychosis, which is equally at the root of the two great religions Brahminism and Buddhism.

The most widely differing philosophic schools, which have followed one upon another in the course of ages, all admit this notion of re-embodiment, which they state more or less obscurely, and often extend even to animals. This thought it is which inspires the Hindus with that wondrous reverence for all living things, animals, and even plants. After a long series of re-embodiments the soul attains freedom, which is the one capital object of human existence. This is the *moksha* of the Brahmins, the *nirvana* of the Buddhists. It answers to a kind of absence of all thought and activity, and constitutes supreme happiness.

The theory of reincarnations is constantly put forward

in Hindu literature. It is hardly necessary to quote passages in support of it, but we nevertheless think that a few extracts from the sacred books will be of interest. The doctrine is not explicitly laid down by the Vedas, in which the Brahmins have, however, succeeded in discovering it, with the aid of such passages as this :

" What avails it here below to have desires and to seek pleasures of the senses ? In dying we only contract fresh bonds with other bodies in other worlds."

The doctrine is seen more clearly indicated in the Brahmanas and Upanishads. But later it took strength under the influence of the philosophical schools, and rapidly became a universal dogma.

In the " Bhagavad-Gita," or Song of the Blessed, Prince Arjuna, at the point of giving battle, recognizes beloved relations in the hostile army, and being overwhelmed with grief at the thought that he might cause their death in the struggle, he is consoled by Krishna, who reveals to him the doctrine of transmigration :

" Those bodies that vanish are gifted with an eternal soul, which cannot be destroyed. He that thinks to slay it, or that it is slayable, errs.

" He that hath weighed the secret of my birth and work divine returneth no more to a new birth ; when he quitteth his body, he cometh back to me.

" I have had many births, and thou likewise, Arjuna ; I know them all, but thou knowest not. My soul is the stay of beings that have no being in them ; my soul is their being."

The same thing is asserted in the Mahabarata :

" Even as when he casteth off an old garment man clothes himself in new raiment, even so the soul, casting off the worn-out body, takes on a new body, avoids the fatal paths leading to hell, works for its salvation, and proceeds toward heaven."

The theory of re-embodiment was in Hindu poetry expanded in a manner which at the first glance appears particularly strange. In the Ramayana we hear Vishnu declaring to Rama that he is embodied in all things excellent and good. Among the rivers he is the Ganges and among the warriors he is Rama himself, to whom he

is speaking. We immediately grasp the conception according to which living beings inclose a divine emanation. That emanation, on becoming embodied in matter, acquires a new consciousness depending upon the perceptible form which it takes on; at the same time it loses all clear notion of its spiritual origin, of which during sensitive life it retains but a dim memory.

With the majority of ancient peoples, the idea that the soul is called to a continued course of improvement, carried on through numberless existences, led to a very general desire for betterment, a need for activity, for perseverance in enterprise, but among the Hindus it produced precisely contrary results.

The transmigration of souls, the perpetual journeyings through life after life—the circle of *gwynfyd*—which the Gauls accepted not with sorrow, but with a longing to enjoy the new existence which awaited them, is by the Hindu rejected with horror; for he sees therein the forced abode in a world of evil and ignorance which should be left behind as soon as possible. The rival schools of philosophy and the most antagonistic religious sects are at one in their anxiety to put a period to these endless re-embodiments, the thought of which haunts them. Their one difference is as to the most effectual means of attaining this end.

In the realm of religious faith this divergency of opinion led to the great schisms of Djainism and Buddhism, and to the formation of the numberless sects into which Brahminism is now divided. They are all, however, agreed in recognizing the "ignorant condition of the soul," *avidya*, to be the principal cause prolonging the cycle of reincarnation, and this must be combated by knowledge, *vidya*, to be acquired by asceticism and meditation. Asceticism breeds in us *tapas*, that fertilizing warmth which, by giving the soul supernatural powers, can raise it to the heavenly regions, and by which the *Asuras* tried of old to raise themselves into gods. Asceticism also permits of a useful recourse to meditation, the principal means of deliverance, according to the *yoga* school. It is by meditation alone, writes M. de Milloué, that the wise man can come to feel the

unreality of the external world and to understand the identity of his being with the universal soul; so soon as he grasps this, he is sure of reabsorption at death. Ecstatic meditation is thus the most ready means of attaining the blessed condition of *nirvana*, that scarcely conscious calm which, with our Occidental notions, it is so difficult for us to comprehend, but which seems to border upon annihilation. The doctrine does not shrink from its most disastrous and pessimistic consequences; it declares the world essentially wicked, and proscribes all activity. Actions, whether good or evil, are always baneful, because they tend to prolong the period of probationary reincarnations.

We shall not push the doctrine of transmigration any further home; we have mentioned it chiefly to show the different consequences in which it may result according to racial temperament. We must not, however, omit to remark that this conception of reincarnation furnished Brahminism with its chief justificatory argument in favour of the rigid caste-distinctions which seem to us so unnatural. Brahminism looks upon birth in the inferior castes, *sudras* and *pariahs*, as the punishment for faults committed in a previous existence. It is, in its view, an ineradicable mark or seal of infamy stamped by the very law of karma, and nobody can raise the impious claim to dispute it.

It is easily seen to what odious consequences such a theory may lead, and we can well understand the enthusiastic echo roused in the multitude of the outcast by the proclamation of the Buddhist schism, when Sakyamuni displayed the brotherhood of man and shattered the social barriers raised by the Brahmins under the doctrinal ægis.

Before finishing with the Hindus we shall recall the notions held by the great philosophical schools known as Darthanas, concerning the human soul, and its abode for a time at least, after death. We shall chiefly insist upon the three principal schools, which represent antagonistic doctrines, namely, the Nyaya, Vedanta, and Sankhya schools.

The Nyaya school, which espouses spiritualistic ideas,

affirms the conscious immortality of man's soul, wherein it distinguishes two elements—*atman*, or sensitivity, and *manas*, or intellect. The Vedanta school also allows this distinction, but adds a third element, *prana*, the divine breath ; it looks upon the soul as a spark emanating from Brahma, which has come to animate matter but has lost the memory of its heavenly origin.

The Sankhya school is purely materialistic, and draws its inspiration from the doctrines of Buddhism and Djainism. It considers matter, *prakriti*, to have existed from all eternity side by side with spirits, *purusha*. Prakriti is active but unreasoning, and incapable alone of originating organic forms, and can only produce illusions, *maya*. By means of these illusions it captures purusha which allow themselves to be drawn within the sphere of attraction and unite with it in the creation of beings. The purusha subsequently recognize the fault they have committed, and endeavour to escape from the meshes of prakriti, but they can only do so by passing through the cycle of existences and freeing themselves by penitences, *tapas*, so as to deserve to return to the invisible world from which they emanate. Briefly, it may be said that the philosophical systems, while affirming immortality, differ among themselves in that they do not all admit the survival of consciousness, and they are also unlike in their doctrinal teaching. The two great Buddhist schools of North and South differ precisely on this point, which was never properly decided by Buddha. The Southern school, Hinayana, considers that conscious survival is not vouchsafed to the soul as we know it in the present life, but only to its karma, which is a kind of abstract entity representing the necessary consequences of its acts. It is this karma which determines the features of the new being which it summons into existence, the unconscious perpetuator of him with whose moral inheritance it is endowed. The karma frames its character and determines the main lines of its future career, always keeping in view past deeds, which must be rewarded. Thus the karma becomes the collective residue of a whole series of mutually unacquainted beings, but whose continuity in time

it maintains in order to furnish the satisfactions demanded by immanent justice. It holds them all together, forming, as it were, the moral link between the first and the last of the series. The various beings which appear successively as unconscious manifestations of the karma are entirely ignorant of the deeds of which they are undergoing the consequences. But this unconsciousness is not destined to last for ever; for the memory of past existences still remains unimpaired in the depths of the karma, and the soul, when it has attained to sanctity, will be able to grasp and understand that memory.

This weird conception is no monopoly of the Hindus; we meet with it again among the Chaldeans, as we shall see when we come to talk of the *kerdar* and the *ferohers*. Let us recollect that, as far as regards the nature of the soul, the Hindus of to-day agree with the ancient Egyptians in viewing it as made up of a number of fluid-like, invisible elements centred about an immaterial principle. Each of these elements corresponds to a particular faculty of the soul, and may therefore be considered as relatively independent of the others. The element is most subtle and attenuated in proportion as the corresponding faculty is higher and more characteristic of man.

To be sure, it is difficult to classify these elements methodically, and this would not have suited the vague and hazy notions of the Hindu. Yet, says Baron Textor de Ravisi, in a paper laid before the Provincial Congress of Orientalists held at St. Etienne in 1875, it seems possible to distinguish seven, which may be arranged in the following order and assimilated to the Egyptian classification:

	Hindu	*Egyptian*
1. Physical body.	Rupa.	Xa.
2. Vitality.	Jiva.	Hati.
3. Astral body.	Linga chavira.	Tet.
4. Animal soul.	Kama Rupa.	Xaib.
5. Human soul.	Manas.	Sahu.
6. Spiritual soul.	Buddhi.	Ra.
7. Divine spirit.	Atma.	Ka.

At death the astral body, accompanied by the superior elements, detaches itself from the physical body, which is now being deprived of vitality; it thus preserves a complete individuality, which, according as it is good or bad, determines what place it shall henceforth inhabit as the consequence of its terrestrial existence.

According to the doctrine of modern Hinduism the final decision regulating the soul's destiny after death is made by the god Yama, who has already appeared in the Vedas as ruler of the sun; he is a son or form of Agni, king of the pitri, who now presides over the administration of hell, and sees to the proper carrying out of his sentences. As M. de Milloué puts it, he combines the functions of Pluto and Minos. His throne is in the palace of Katichi, and he is aided by a recorder, Chitragrupta, and he has before him the fatal book "Agra Sandhani," wherein are written the deeds of the dead. After examining them, he passes the dread sentence by virtue of which the disembodied soul will pass either to heaven or hell, or perhaps back to earth to be reincarnated. He is a pitiless judge whom naught can bend, for he is impassive as the law of karma which he administers.

These more definite notions, wherein is seen the idea of an after-life, have gradually ousted in the popular belief, whether of Brahmin or Buddhist, the too abstract conceptions of moksha and nirvana. Both religions nowadays recognize a distinct heaven (the svarga of Brahminism and the sukharati of Northern Buddhism), and both combine, under the name *naraka*, various degrees of hell, which visit all imaginable tortures upon the souls of evil-doers. As for those souls which, without having been completely bad, nevertheless have sins to expiate, they are sent to intermediate places set apart for them, *kama loka* and *rupa loka*.

CHAPTER VII.

THE CHALDEANS.

The Religion of the Magi Lofty in its Conceptions and Free from Idolatry. Chaldeans the Founders of Astronomy. Their Belief in a Complex Soul, a Bodily Resurrection, the Soul's Immortality, and Rewards and Punishments after Death. A Parsee Priest's Summary of the Doctrine of the Nature of the Soul. Opinions of the Magi on the Future Life opposed by Jinandii Modhi in 1893. The Wicked to be purified in Hell and admitted to Heaven. Ceaseless Struggle between Ahura-Mazda, the Spirit of Good, and Agramai-Nyons, the Spirit of Evil. Evolution of the Conception of a Single God. The Eternal Progress of the Soul toward Perfection. Guardian Angels to be rewarded according to the Good Deeds performed under their Inspiration. The Prayer to the Ferohers, or Guardian Angels. The Progress and Kinship of all Living Beings. Respect for Women. Monogamy.

THE more we come to know of the Chaldeans, the further we find their history receding into the mists of antiquity. In point of age that history can compete with that of Egypt, and acquires greater authority in our eyes in proportion as its origins come nearer to those of mankind itself.

The Magi of Chaldea undoubtedly possessed the profoundest knowledge to which their contemporaries were able to attain. They founded a religion involving lofty conceptions and free from that admixture of idolatry against which the Egyptians were unable to guard themselves. They were able to adore godhead without seeking for it in animals, nor did they feel the necessity for any other symbols than the airy, ethereal flame shooting heavenward from the fermented libation (*homa*) placed upon the sacrificial altar.

Maybe they were the first to make consecutive observations of the movements of the stars, and in this they

were largely assisted by the special facilities afforded by the Persian climate; thus they came to be the founders of astronomy, the science which in antiquity shed light upon all others. Likewise, concerning the constitution of man they held peculiar views which it would be interesting to recover, but unhappily in this direction we possess only vague second-hand information. The only holy books which have come down to us, such as the Zend Avesta and the great Persian poem, the "Masnavi-Manivi," give few particulars upon this matter, and practically restrict themselves to a mere summary of their fundamental notions concerning a posthumous existence.

We have reason to suppose that, like the Egyptians, they considered the soul, which they called *urvan*, to be a complex whole, in which they distinguished especially a vital principle, *ekimu*, having a continuous habitat in the sepulchral monument, while the spiritual element wings its way to the land whence there is no returning. It is known also that they explicitly accepted the idea of a bodily resurrection, to take place by the power of the god Marduk, assisted by his wife Zarpanis. All ancient authors concur in recognizing that the Zend Avesta clearly declared the soul's immortality and the eternity of future life. Pausanias, for instance, informs us [1] that, according to the teaching of Magi, the pure will go to the bright dwelling of Ormuzd, whereas the wicked will be imprisoned in darkness. The modern Parsees, who to this day carry on this ancient religion, still maintain the doctrine of Zoroaster upon this point. This is shown by the declarations made on their behalf at the Chicago Religious Congress in 1893. Mr. Edward Burucha, a Parsee priest in Bombay, forwarded an interesting communication to the Congress, summarizing as follows the Mazdæan doctrine of the nature of the soul of man:

"The undying spiritual element was created before the body, and both were united at birth and are parted at death. The soul, which comes from the spirit-world, is possessed of various

[1] Book IV., chapter xxii.

senses and faculties ; it enters the new-born body, out of which it will return at death unto the spiritual world. Zoroaster teaches us that God grants to the soul such means and assistance as are requisite for the carrying out of its allotted task ; these are knowledge, wisdom, judgment, thought, action, free-will, religious conscience, a guardian angel or beneficent genius, and, above all, revelation. At the resurrection of the dead, when all things shall be renewed and the whole of creation will begin over again, the souls will be provided with new bodies, that they may taste, in the life to come, bliss ineffable."

The faith in survival among the ancient Magi was accompanied at the same time by incessant preoccupation as to the future life ; a lofty sense of justice serving as their point of view. In a word, they did not confine themselves to the simple affirmation of survival which has been made by humanity from the beginning of its history, but, like the Egyptians, they clung, above all, to the idea of the inevitable reward which the future life must apply to the deeds of the life on earth. They, too, endeavoured to picture to themselves beforehand what would be the judgment ensuing after death, and to forecast the different fates awaiting the good and the wicked. The notions at which they arrived were discredited by Mr. Jinandii Modhi at the Chicago Religious Congress in the following terms :

" The Avesta, as well as earlier Pehlvi writings, attaches first-rate importance to the question of the soul's immortality, because the dogma appears to be morally requisite. Mazdæism inculcates a belief in heaven and hell. Between heaven and the future world it places a bridge named Chinevat. According to our book, the soul of a man after death wanders for three days over the face of the earth under the guidance of the angel Serosch. If the deceased was a man of piety or led a virtuous life, his soul utters the words : ' Happy is he whose profit is not only his own, but also that of others.' If, on the contrary, he was a wicked man or led a sinful life, his soul complains bitterly : ' Whither shall I betake me, or in what country shall I find refuge ? '

" At nightfall on the third day the souls of the dead come to the bridge of Chinevat, which is watched by the angel Meher Daver—Meher the Judge—with whom are two assistant judges, the angels Rashné and Astad. The first represents justice ; the second, truth. Before these three judges the soul is summoned to render account of its deeds, and is weighed by Meher Daver in the scales. If the evil deeds are heaviest, even by ever so

little, the deceased is forbidden to cross the bridge, and is hurled into the abysm of hell. If evil and good are equally balanced, he is sent to an abode called Hamast Gehan, answering to the Purgatory of Christianity and the El-Araf of Mohammedanism. The good which he has done hinders him from going to hell, and the evil from going to heaven."

Be it added that this division of souls, terrible as it is, does not last for ever, but only till the end of the ages, when the struggle between good and evil shall itself cease. The Avesta tells us that upon the day of resurrection all the souls of the righteous shall meet upon Mount Berezat in the chain of Elbruz, under the guidance of the ministers of good spirits, and thereafter the wicked shall be permitted to join them, being now purified by pain and fire. All men will then become blessed, and will take on bodies of light, being no longer in need of nutriment.

Plutarch tells us[1] that, when the end of the world shall have come, even the most wicked of the darvands will become pure and divine, breathing nothing but purity, and will offer a long service of praise to Ormuzd. It is known, moreover, that Mazdæan doctrine is mainly based upon the idea of the ceaseless antagonism between good and evil which is omnipresent in the universe, but more particularly actuates mankind. This it views as a struggle between two rival genii: Ahura Mazda, the spirit of good and source of true life, the father and author of truth, who guides all heavenly movements, and the god of evil, Agramai-Nyons, who inspires all sinful lusts and unrighteous deeds.

The struggle between these two warring principles will last as long as mankind itself, and will continually suffer ups and downs of triumph and defeat. Nevertheless it will not extend beyond the bounds of time. It must not be forgotten that the good spirit is more powerful than its rival, and must inevitably be victorious at the day of resurrection.

It is thus clear how the conception of a single God arose by degrees out of this earlier dualism; for, being quite convinced of the final victory of good, we are led

[1] "De Isi et Osiri."

to the conclusion that in reality the world is not governed by two evenly balanced and antagonistic powers, but by the providence of the more powerful of the two, which regulates all things with a view to its final victory ; and we read in a passage quoted by Menant, author of an "Etude sur Zoroastre," that he who does not recognize the unity of God will not be permitted to cross the bridge of Chinevat, but will be condemned to remain in hell until the resurrection.

In the belief of the Mazdæans the ultimate triumph of the God of good will inevitably lead to the conversion of the wicked, because after the defeat of Ahriman evil will no longer be able to exist in the universe. They conceived the history of the soul, moreover, as an eternal progress toward the good, and there would be something inconsistent in supposing that a soul might some day be no longer in a position to attain the good. They recognized, in accordance with this interesting evolutionary doctrine, which we shall meet with again among the Gauls, that this continuous ascending movement is carried on in all the realms of the universe through which the soul, at first unconscious, has already passed before reaching the world of man, where it appears endowed with faculties gradually accumulated in the course of past existences. The soul is destined to improve yet further, to rise in future above its state, to free itself from covetousness and desire, and to essay countless higher grades of intelligence.

Throughout this endless progress the soul is guided by the *fravashis* or *ferohers*—souls created by God, born or not yet born, a kind of superior spirits, among which it will some day take its place. These ferohers are, in fact, guardian angels, having the same substance with the soul which it is their mission to protect, and at the same time going through a process of development parallel to that of the soul, the fruit of whose virtuous deeds performed under their inspiration they also enjoy. Placed thus at the summit of the scale of beings, the ferohers serve as ideal types of all pure existences ; but the great law of continual perfection, embracing all forms of life, from lowest to highest, compels each form

to have its ideal type ; and so humanity is not the only possessor of these protecting spirits, but animals also have their appropriate ferohers, which are the souls of each different species.

The ferohers of the dead are the beneficent genii of mankind. They live in real communion with us, although invisible. Upon the last ten days of the year, which are specially set apart for them, they come down from heaven upon earth to mingle yet more intimately in the life of those whom they love, and to receive the sacrifices and offerings which they require. To render these has always been, as we have shown, the unremitting care of primitive peoples. The prayer to the ferohers expresses this concern with remarkable intensity :

" We make offering to the good, strong, holy ferohers of the righteous, even unto those that come down from their habitation at the season of Hamaspath-mædha. Then do they spread themselves over the earth during ten nights and give utterance to their desires in such questions as these : Who shall laud us ? Who shall make sacrifice unto us ? Who for us shall spread out an offering ? Who shall call to us, having in his hand the milk of cows, and a garment, and uttering the prayers which bring purification ?

" Then do the strong ferohers of the righteous, being appeased, become benign and beneficent, and they bless him who has brought them milk of kine, and a garment, with a prayer for purity. ' Let him have in his home a flock, a cow, and her calves ; let him have a swift steed and a strong bull. Let him be honoured and deemed wise.' "

Each man's feroher is gradually formed during life, and being an invisible form (*kerdar*), which, as it were, epitomizes our deeds and thoughts, and thus by degrees waxes stronger, it gradually reaches heaven. This is, in other words, the belief in the *karma*, which we noticed among the Hindus. The karma, it will be remembered, was the necessary outcome of our acts during life. The feroher, however, preserves a more personal and human character, and appears in the light of a guardian angel, or benevolent tutelary spirit, eager to rise as we rise, and steering us along the course of moral progress ; while the karma, on the other hand, is the inflexible judge, caring for nothing but the law, and unable to forgive misdeeds which have not yet been atoned for.

In the belief of the Magi, the soul passes through a series of existences until it attains such a state of purity as qualifies it for release from further reincarnation and renders it eligible to dwell in a place of light eternal. Meanwhile it has, no doubt, lost all memory of its previous lives ; but the good which it has done and the lofty aspirations it has formed are not thrown away, having been gathered up by its unconscious kerdar ; and when at the last it has obtained that spiritual enlightenment which is the crown of human progress, the soul will behold its kerdar in full consciousness, and recognize therein its work and recover the memory of its former existences.

Let us add, from another point of view, that this interesting doctrine, which beholds in each living creature a more or less veiled manifestation of divine consciousness, a pilgrim more or less advanced upon the high-road of unlimited progress, led the Chaldean Magi onward to the conception of the universal kinship of all living beings, which is highly remarkable for ancient times. They included therein not only all their own countrymen, regardless of rank, but all mankind. Even animals come within the bounds of their solicitude.

He that makes sacrifice, says Herodotus, is not allowed to offer prayer for himself alone, but must ask that benefits may be showered upon all those of his nation, and above all upon the king.

" To thee, O Homa, who dost make the poor equal to the great, to thee I raise my prayer." [1] In another place Zoroaster, as he shows the heavenly vault to King Gustap, expresses himself thus : " These rounded domes cover, without distinction, kings and their subjects, masters and their servants."[2]

It is the Chaldeans' duty to respect useful animals, which emanate from Ormuzd, and to combat noxious beasts, emanating from Ahriman, and he is to remember that animals have a soul in course of development, and that we owe duties to them. The rewards of heaven are promised to such as have care for the increase of domestic animals and treat them with kindness and

[1] Menant. [2] See Anquetil Duperron, " Vie de Zoroastre."

justice. Moreover, the animals themselves will some day be able to recognize the benefits we have bestowed upon them:

"I pray to the animals, that they in their turn may pray for me. To slay a dog that is set to watch a flock is to imperil the salvation of one's soul."

We have our duties to perform even toward plants. To till the soil and clothe the earth with vegetable life, to beautify it and make it happy and joyous, is as much a deed of sanctity as is prayer. The feeling of universal kinship, and the protection which they were bound to extend to the weak, filled the Mazdæans with a deep respect for women. Monogamous marriage was compulsory upon all the faithful, and was a necessary condition of salvation. This institution is still upheld by the Parsees even in Mohammedan countries. Adultery was rigorously put down by religious law, which aimed at purity of life and manners. As J. Reynaud remarks, woman preserved her personality even in marriage, and was not condemned to merge entirely with the husband and to follow his fortunes passively. If she was worthy, she might even be admitted to priestly office.

CHAPTER VIII.

THE GAULS.

Immortality the Distinctive Doctrine of the Gaulish Religion. Relations between the Celts and the Greeks. Resemblance of Druidic to Pythagorean Doctrine. Druidic Religion and Philosophy now known only by References in the Classics and in the Songs of the Bards. Ascent of the Principle of Life from Plants, through Animals and Men, up to God. Plurality of Inhabited Worlds. The Moon a Preparatory Region for Earth, and for Heaven. Immortality not a Theory, but a Dogma. Effect of this Doctrine on the Lives of the Gauls. Their Belief in Divine Unity. Resemblance of their Sacrificial Rites to those of the Hebrews. Analogies between Druidic and Chaldean Religion. The Mistletoe a Symbol of Immortality. Adoption of Christianity by the Druids. Vestiges of Druidism in Early Christianity. Joan of Arc.

In this general survey of the races of antiquity the Gauls in every way deserve a prominent place, for they, more than any other people, had a firm and active belief in the doctrine of survival and immortality. If in other cases we have been able to point only to the noble dreams and problematical hopes of a few chosen spirits which were perhaps not shared by the masses of their fellow-countrymen, in the case of the Gauls there is general unanimity, one absolute and unwavering faith, which became the foundation of all their institutions and the undisputed rule of life for every individual. At the same time, this faith encouraged acts of devotion, the feeling of self-sacrifice and contempt for death—in fine, all those high qualities which won for the great Celtic race glory and fame among all the peoples with whom it came in contact during its protracted wanderings. As Jean Reynaud has remarked in his fine "Esprit de la Gaule":

" If Judea represents in the world, with a tenacity of its own, the idea of a personal and absolute God, if Greece and Rome represent the idea of society, Gaul represents, just as particularly, the idea of immortality. Nothing characterized it better, as all the ancients admit. That mysterious folk was looked upon as the privileged possessor of the secrets of death, and its unwavering instinctive faith in the persistence of life never ceased to be a cause of astonishment, and sometimes of fear, in the eyes of the heathen."

All ancient writers concur in setting high value upon the philosophy of the Gauls, of which they acknowledged the value and the unquestioned superiority. We find this feeling expressed not only among heathen writers such as Aristotle, Cæsar, Lucan, and Valerius Maximus; but later also by the Fathers of the Church, Saint Cyril, Saint Clement, and others.

It is therefore most regrettable that so highly esteemed a doctrine should have become lost after the conquest of Gaul, and that we should have only scattered references out of which to reconstruct it. However, there is no need for doubt upon the point which concerns us. From numerous unequivocal quotations we know that the relationship of the Gauls to the school of Pythagoras was clearly recognized.

The Celts, who doubtless set out from some central Asiatic home at the time of the great Aryan migrations, finally settled in Gaul after having passed through the greater part of the then known Continent. They must have rubbed shoulders with almost all the peoples of antiquity; must have bartered ideas with them, learned from them, taught them perhaps; and thus it is that we have numerous records of their long-standing relations with the Greeks, for example. We know indeed that the Gauls regularly despatched an offering to the great sanctuaries of Greece, and that the Celtic god Bel had a place set apart for him in the temple of Delphi. In the island of Delos there stood behind the temple of Artemis a Druidic monument, said to be the tomb of two hyperborean priestesses who had come to the island in the olden days together with Apollo. In the very temple of the god there was another such monument, and both, says Herodotus, were the object

of particular veneration. When speaking of the ancient alliance between the Dorian and Celtic tribes settled at his time upon the Euxine, Herodotus mentions the name of a certain priest Abaris, whom we also find in Pindar and Hecatæus; and it is very remarkable that a Gaulish medal of gold bearing the same name should have been discovered in Western France. This medal is now in the Bibliothèque Nationale at Paris.

Seeing how identical are their doctrines, it is not very strange that antiquity should have connected the Druids with the Pythagorean school, and should have supposed Pythagoras to have been either their master or their pupil. Polyhistor, indeed, declares in his book upon "Symbols" that Pythagoras visited the Brahmins and the Celts. Others affirm that the Druids were initiated by Zamolais, a sometime slave of Pythagoras.

As we have already remarked, a complete knowledge of Druidic doctrine is unhappily unattainable. Their teaching was entirely oral and was never transmitted by writing. We nevertheless gather from sundry references, far too rare, in Greek and Roman writers, that it formed a philosophical doctrine of high value; its study entirely absorbed the lives of those who devoted themselves thereto, and the mere initiation period lasted no less than thirty years.

The information gleaned from ancient authors is confirmed by the songs composed after the Roman invasion by bards who had been instructed by the Druids. These songs have survived, and owing to the progress of Celtic studies they can now be interpreted with comparative accuracy. The most noted are the works of the bard Taliesin, and they record nothing more than the faint echo of a dying faith. They permit, however, of our discerning the doctrine in its main outline, and, thanks to them, we know the Druids to have admitted the existence in man of an immortal and immaterial principle. From the interpretation of inscriptions gathered from the menhirs, and especially from Gaulish medals, we gather a no less explicit affirmation of a faith in immortality.

The Gauls believe that man's immaterial part was

a divine emanation, the *awen*, or single principle of all life. Before reaching man, the unconscious awen animated inferior forms of life, first plants and then animals. It was then imprisoned in the circle of the abyss, *anufu*, but after long years of struggle and waiting it escaped thence and entered the circle of liberty, *abred*, which is also the circle of transmigrations. This circle includes all the worlds of trial and atonement peopled by mankind; and of these worlds the earth is one. After many transmigrations the soul will pass on, and will attain the circle of happy worlds and felicity, *gwynfid*. But even this is not all. Far higher and inaccessibly removed is the circle of infinite, *ceugant*, encompassing the other circles and belonging to God alone.

One feels no hesitation in recognizing the doctrine of transmigration, which we have already remarked among the great races of antiquity, and which formed the basis of the Pythagorean teachings. As it at the same time rests upon the notion of an infinite progress toward perfection, it would seem to deny explicitly the possibility of the soul's returning to inferior forms, as was generally held to be the case in the theory of metempsychosis. The Gaulish doctrine recognizes the essential difference between the soul of man and the soul of the animal, and is thus in advance of other doctrines.

So deeply were the Gauls impressed by thoughts of a future life that, it is said, they waited five years after condemning a criminal before they put him to death, so as to give him time for repentance, and fearing also to sully the world beyond with the presence of guilty souls.

The continuous transmigration of souls as yet detained in the circle of *abred* took place not only upon earth, but also in kindred planetary worlds. Thus says Lucan in his "Pharsalia," addressing the Gauls:

"Ye deem that the shades are not interred in Erebus' dark realm, but that the soul returns to people other bodies in new worlds. The same soul rules other limbs in other worlds. If that which your hymns sing is truth, death is but an interlude in a long life."

There can be little doubt that the Druids, who had attained to this conception of the plurality of inhabited worlds, must have possessed profound astronomical knowledge, as indeed Cæsar claims for them. They almost certainly knew that the world moves in the universe, of which it does not occupy the centre.

But listen to the bard Taliesin :

" I will ask of the bards what upholdeth the earth, seeing that it is without maintenance, yet falleth not. Who can uphold it ?
" A great journeyer is the world. While it glides on unresting, it remains calm in its path. How wonderful is that path, that the world should never at all leave it ! "

Hecatæus informs us that the Druids taught the existence of lunar mountains, which would indeed point to their possessing very exact knowledge concerning our satellite. The Druids, like the Chaldean Magi, and indeed most priests of antiquity, were astronomers —the watching of the skies was their principal business. According to their belief, souls which finally escaped from their humanity passed beyond the atmosphere and betook themselves to the moon, which constituted a sort of half-way paradise. Here they again suffered death, finally issuing forth, transfigured and entirely purged, to go to the sun, the real and lasting paradise. Plutarch tells us that they looked upon the moon as the place, and therefore the visible pledge, of the immortality awaiting them. It is moreover known that the moon played a predominant part in ancient esoterism ; according to the Pythagoreans it formed a sojourning place between earth and heaven. The souls of the dead passed their astral life upon the face turned toward the earth before they were permitted to rise to heaven, while the souls of heroes and geniuses about to become incarnate assumed the astral body upon the averted face before descending to the earth. The moon magnetized the souls for terrestrial incarnation, and demagnetized them for heaven. It consequently enjoyed, as Jean Reynaud tells us, every kind of religious favour. The order of the ceremonies, which the moon sanctified by her presence and rays, was fixed according to her

phases ; her crescent, placed in the Druids' hands, served as the sign and emblem of their office. To summarize Druidical doctrine from the eschatological standpoint, it may be said that the earth was regarded as an inferior world, wherein liberty enjoyed free play, which fact explained the existence of evil. But it was only a transient abode, for afterwards the soul entered into heaven, which was the world of love *par excellence*. This goal it could attain only after numerous transmigrations ; and upon this point Plutarch informs us that the death of a higher man who is about to enter the final *gwynfid* circle causes certain disturbances in the earthly material world. In principle, the soul is detained in the circle of abred after death, for the three following shortcomings—neglect of self-instruction, lack of love of good, and attachment to evil. When at last it does reach the circle of gwynfid, its awen recovers pristine purity together with the recollection of its past existences, and enjoys moreover the affection of those whom it had known and loved during its many pilgrimages upon earth.

What, however, especially characterizes the Gauls and their doctrine of immortality is that they did not regard it as a mere philosophical theory subject to discussion, but as an absolute certainty possessing all the reality of the present life. Upon this point all ancient authorities are unanimous : that the certainty of immortality governed their every act, inspired them with such noble virtues as are engendered by contempt for death, and with that bravery exaggerated into foolhardiness which proved their destruction. According to Pomponius Mela and Valerius Maximus, they did not hesitate to lend sums repayable in the next world. They buried or burned with the dead such of their belongings as might serve them in their next existence ; and Diodorus Siculus says that they even added thereto letters addressed to relations who had died at some earlier time, so that they might be delivered to them by the deceased.

Druidical doctrine, moreover, possesses this remarkable feature : faith in immortality went hand in hand

with a most exact belief in Divine unity. The god Æsus, whose name is remarkably similar to the Greek *Aisa*, or goddess of destiny, superior even to Zeus himself, was considered the supreme head of the universe placed above all other divinities. It is known that Aristotle thought that the name Aisa might be explained by a quaint etymology, namely, *ἀεὶ οὖσαν*, ever *existing*, which strikingly recalls the name of the God of the Jews, Jehovah, which is formed by the combination of the three tenses of the verb *to be*, past, present, and future, and likewise expresses the notion of eternity. Interesting too is the fact that the Druidic ritual presented singular analogies with that observed by the Israelites at the time of Exodus and Judges.

Like them, they adored the Highest amid the great forest oaks, beneath the starry vault, and in no temple built by man. The stone upon which they laid their offerings was intentionally left unhewn; for if it had been touched by any tool it would have been tainted with man's impurity, and that which has come from the Creator's hand is pure enough to be set before his face.

The unhewn rock, or menhir, which no doubt sheltered the sacrifice, was reared amidst the towering of nature's temple. Like features mark the sacrifices offered by the Hebrew patriarchs and described in the Bible. So did Abraham come afoot into the oak-forest to lay his offering before Jehovah, and he set it down upon a rough stone consecrated for the purpose and called *Bethel*, the House of God. The Israelites also raised mighty stones to commemorate events in which they desired to trace the ever-watchful guardianship of Jehovah; or else they reared tumuli upon which each man laid his stone, as was done after the passing of Jordan. Herein we have a definite parallel with the Gaulish cromlechs. It need hardly be added that with the Gauls, even as with the Israelites, the idea of worshipping God necessarily involved the notion of sacrifice, and unhappily it led both peoples to the too frequent practice of bloody holocausts.

It may well be understood that all these analogies between Jewish and Druidic ceremonial long ago

impressed commentators, and appeared to them to indicate the existence, at some time in the beginning of history, of active relations between the two peoples. From other points of view no less precise analogies can be remarked between Druidic and Chaldean religion. Pliny, indeed, calls the Druids the Magi of Gaul.

Mistletoe, for instance, was an indispensable feature in all Gaulish religious ceremonies, of which indeed the word " druid " is itself immediate proof, for it is in all probability derived from the two vocables *derv* (oak) and *wydd* (mistletoe), *derwydd* being the original Celtic for Druid. There is every reason to suppose, as Jean Reynaud says, that the Druidic mistletoe fulfilled the same symbolic uses as did the Mazdæan *homa* or the Vedic *soma* among the Magi and Aryans, respectively.

Fitting symbol, indeed, of immortality was the evergreen mistletoe, sprouting from a strange tree, and which, as it perishes by its fermentation, gives birth to hidden forces from which a new being will arise. We might multiply examples, but those we have already given suffice to emphasize the numerous analogies by which the Druidic doctrines were linked with the great religions of antiquity.

Dr. Maurice Adam remarks that these same analogies later reappeared in the Christian dogma ; and it is not difficult to understand that the Druids should have readily adhered to, and propagated, the new religion as soon as it was conveyed to them by the Roman invasion. In it they recognized their fundamental dogmas allied with a higher doctrine of divine love and of charity toward every creature, which they had not so far known, but the call whereof they were worthy to hear.

The menhirs and dolmens received the cross. " Good is the stone with the Gospel," proclaimed the bards, and La Villemarqué says that St. Partick carried a stone with him upon his travels, to serve as an altar for celebrating the mass.

A. Bertrand even asserts that the monasteries wherewith Gaul was covered were merely ancient Druidic congregations which had been converted wholesale.

Jubainville also declares that in Ireland the Druidic hierarchy became at once converted into a Christian hierarchy. It is clear why the Christian dogma sank into the soul of the descendants of the Gauls so profoundly that for long centuries their history is confounded with that of the Church.

It is very remarkable that the worship of trees and forest-fairies should have persisted in Gaul after the rise of Christianity ; and this shows that in the opinion of our forefathers a Christian belief did not exclude the last vestiges of the older faith. This influence, indeed, has left a deep mark upon all the intellectual output of the Middle Ages ; it inspires the Bardic or neo-Druid poetry ; and in the epic of the Round Table, in the songs of the Trouvères, and in the old Fabliaux, it is always the Celtic spirit which influences the choice of subjects and heroes. The same Druidic faith, although she knew it not, inspired the earliest thoughts of the Maid whom the famous prophecy of Merlin summoned to be the liberator of France in one of the most troublous periods of its history. We know that the poor Domremy shepherdess was wont to go and think beneath the shade of the giant oaks, and there drank in the inspiration which had guided the Gallic race ; there she saw angelic visions, and thence drew courage to face battle and bloodshed, and lastly to sacrifice her life to save France. She upon whom we look as the hallowed incarnation of mother country united in herself the two great streams of influence which had contributed to its upgrowth—Gaulish tradition and Christian faith.

CHAPTER IX.

THE JEWS.

Immortality obscurely taught in the Old Testament. Quotations on this Subject from the Book of Wisdom, Ezekiel Job, Daniel, Maccabees. Why Job and Maccabees cannot be viewed as proving that the Jews believed in Immortality. Moses probably a Believer in the Doctrine. A Widespread Belief that the Pentateuch holds a Hidden Meaning. Three Different Words used in the Bible to signify the Immaterial Part of Man. Evidence that the Old Testament admits a Belief in Survival, and in the Power of the Dead to manifest themselves. Probability that the Israelites practised Ancestor-worship. Their Laws for providing Heirs for Men who had no Sons. Their Hopes for the Dead. Sheol compared to Purgatory. Survival plainly taught in the Cabala and the Zohar. Rotation of the Earth taught in the Zohar. Reincarnation taught in the Time of Christ.

THE Jewish Bible appears at the first glance to know nothing of immortality. It merely states that the present life will reward the righteous and chastise the wicked. In order to impress the chosen people with a sense of their duties toward Jehovah, it never so much as thinks of appealing to the idea of an after-life. The Pentateuch mentions only Sheol, a kind of dark cavern where the souls of the dead are gathered together in an unconscious sleep. All apologists of the Bible have long been struck with this conception; Bossuet declares that God no doubt considered that the intelligence of the early Hebrews was insufficiently developed to grasp the conception of immortality. It may, however, be noted that the absence of the idea of survival is not so complete as might at first sight appear, and it is possible to adduce numerous passages affirming such an idea more or less explicitly.

Solomon's "Book of Wisdom" tells us that God made

man imperishable, and that by sin alone death entered into the world. "They knew not the secrets of God, nor hoped for the wages of justice, nor esteemed the honour of holy souls. For God created man incorruptible, and to the image of His own likeness He made him." [1]

Well known is the vision of Ezekiel in which the prophet, in obedience to a divine command, bids the dry bones of the dead to awaken and live again.[2]

We may also quote various passages from the Book of Job: "For I know that my Redeemer liveth, and in the last day I shall rise out of the earth, and I shall be clothed again with my skin, and in my flesh shall I see my God: whom I myself shall see and my eyes shall behold, and not another: this my hope is laid up in my bosom." [3]

Job maintains, as a general rule, that crime is often unpunished in this world, because God reserves His punishment for another life.

Finally, there is the following passage in the Book of Daniel: "And many of those that sleep in the dust of the earth shall awake, some unto life everlasting, and others unto reproach, to see it always." [4] Most characteristic of all are the following verses from the Second Book of Maccabees: "She said to them: I know not how you were formed in my womb; for I neither gave you breath, nor soul, nor life; neither did I frame the limbs of every one of you, but the Creator of the world. . . . He will restore to you again in his mercy both breath and life. . . . For my brethren, having now undergone a short pain, are under the covenant of eternal life." [5] "And making a gathering, he sent twelve thousand drachms of silver to Jerusalem for sacrifice to be offered for the sins of the dead, thinking well and religiously concerning the resurrection (for if he had not hoped that they that were slain should rise again, it would have seemed superfluous and vain to pray for the dead). . . . It is therefore a holy and whole-

[1] Wisdom ii. 22, 23.
[2] Ezekiel xxxvii. 3-7.
[3] Job xix. 25-27.
[4] Daniel xii. 2.
[5] 2 Maccabees vii. 22, 23, 36.

some thought to pray for the dead, that they may be loosed from sins." [1]

It is at once clear that in these last three quotations especially we have a most explicit affirmation; but it must not be forgotten that the Books of Maccabees, due apparently to two different authors, date from much more recent times than the rest of the Old Testament writings. They recount the history of the fifty years preceding the death of Alexander the Great, which took place in 312 B.C. Consequently they can have been compiled only in the second century B.C., and they do not form part of the Jewish Canon, which had by that time already been fixed. It is therefore possible to suppose that the idea of immortality had been imported into Judea by the surrounding nations during the numerous invasions of which the country was the scene, and that it had been accepted by a part, if not the whole, of the Israelites, as being in conformity, or at the least compatible, with the law of Moses. Moreover, the explanatory matter put forward by the author of the Second Book of Maccabees looks very much as if he desired to justify a belief which was doubtless not yet universally admitted. A kindred objection might perhaps be brought against the Book of Job, although it is undoubtedly much older, some authors ascribing it even to the times of Moses. We have, however, no precise information as to its date or as to the nationality of its author. Maccabees and Job cannot, therefore, be viewed as decisively proving that the Jews believed in immortality, and it would be much more instructive if we looked to the Pentateuch itself for any trace of the possible views held upon the subject by Moses. There can be no doubt that having been brought up in the holy places of Egypt he must have shared in the beliefs to which he had been initiated by the Egyptian priests. But he no doubt thought that it would be impossible to reveal those teachings with beneficial results to the half-civilized people whose prophet and legislator he became. Perhaps in obedience to the examples of his masters, or in reverence of his promise

[1] Maccabees xii. 43, 44, 46.

as an initiate, perhaps, as thought Bossuet, in obedience to the guiding inspiration of God, he refrained from openly stating any fundamental truths, but wrapped them in the veil of mystery which we still have such difficulty in penetrating.

All commentators are agreed in believing the Pentateuch to enfold a hidden meaning. Such was the notion of the Jewish rabbins, such was the opinion of the Fathers of the Church, St. Paul, Origen, and St. Augustine ; and it is all the more credible inasmuch as the priests of Egypt habitually wrote with a hidden meaning and were never willing entirely to disclose the truths taught in their sanctuaries. These were revealed to none but the chosen few, after a long course of initiatory study extending over years. They reappear in the mysteries of all the nations of antiquity, which are only a distant echo of the Egyptian mysteries.

Besides the apparent sense, which is in itself often exceedingly doubtful, we have in any sacred book to look for an esoteric meaning containing the real idea of the author. Many attempts of this kind have been made in the case of the Bible, especially the Pentateuch, and have resulted in extremely divergent conclusions, with which we need not here deal. We shall, however, draw attention to the debate which has arisen as to how to interpret certain verses alluding to the constitution of the spiritual element in man.

In the two most characteristic passages the Bible simultaneously employs the three expressions : *nichema, rouah, nephesh*, which may be roughly translated as " soul " or " spirit," but the exact sense of which should be found out with a view to discovering whether each name is not applied to some distinct portion of the spiritual element. If this were the case, we should be again in presence of the Egyptian conception, according to which the soul forms a complex whole and not an immaterial, indivisible unit, which tradition generally admits in the Christian dogma.

The first of these passages is from Genesis, and describes the creation of man.[1] Hebrew scholars that

[1] Gen. ii. 7.

wish to accentuate the distinction of three constituent elements translate as follows: "The Lord God joined to his material organs (that is, of man) the intelligent soul (the ego), *nichema*, bearing the breath of life; *rouah* (which follows it in all lives); and the bond of this union of the soul with the gross body was a breath of life, *nephesh*."

The Vulgate runs as follows, and entirely ignores any such distinction: "And the Lord God formed man of the slime of the earth, and breathed into his face the breath of life, and man became a living soul."

In Job the same three expressions again occur simultaneously, and the interpretations given to this passage differ as before. The distinction-theory rests upon the following rendering: "And God has postponed the punishment of the guilty, afflicting him first in his earthly spirit, *nephesh*, because the soul, *nichema*, is joined in me eternally with the divine spirit, *rouah*."

The Vulgate runs as follows: "As God liveth, who hath taken away my judgment, and the Almighty, who hath brought my soul to bitterness, as long as breath remaineth in me and the spirit of God in my nostrils. . . ." [1]

The Latin text of the Vulgate is:

"Vivit Deus qui abstulit judicium meum, et omnipotens qui ad amaritudinem adduxit animam meam,

"Quia donec superest habitus in me et spiritus Dei in naribus meis, . . ."

We might also adduce the passage in Isaiah where the three expressions again occur side by side. The Vulgate translates as follows: "For I will not contend for ever, neither will I be angry unto the end; because the spirit shall go forth from my face, and breathings I will make"; [2] against which we have this translation: "The soul shall go out of my hands, and I will give it a *nephesh* which will join it to the body for its incarnation."

These divergences should not cause great surprise when one remembers to what unceasing discussion the

[1] Job xxvii. 2, 3. [2] Isa. lvii. 16.

Bible has been subjected, and the countless attempts which have been made to interpret it in the most different manners. All of which has only contributed to show the difficulty attending any translation of expressions the sense of which has doubtless constantly varied since the remote epoch when the book itself was composed.

We shall not here attempt to solve the dispute, but shall merely note the fact that the Bible considers the soul as containing an emanation of the divine spirit, and as therefore destined to participate in the immortality of the Creator. We may therefore conclude that the Bible admits, at least by implication, a belief in survival, and also in the capability of the souls of the dead to manifest themselves. It is hardly necessary to recall the famous passage in which the shade of the prophet Samuel is conjured up by the witch of Endor at the request of Saul. The soul survives in a kind of semi-conscious condition, surrounded by the fluid-like envelope, or *nephesh*, by means of which it can manifest itself when called upon. This envelope at the same time establishes a kind of permanent connection between the physical body and the soul which has vacated it; for the soul continues to suffer so long as the body is not brought back to the land of Judah, there to sleep its last sleep. It would seem that the disembodied entity still feels some of the wants of physical life even after death—the same belief with which we have already met so often among ancient races, and which still subsists among Oriental peoples.

It is interesting to note that this crude conception of survival must have led the first Israelites to practise ancestor-worship, for we find them paying extreme care to consecrated burial, to the end that the soul might enjoy repose in the life beyond; we see them equally concerned about leaving a son behind them for the continuance of sacrifices; and we discover in the Bible various passages giving clear evidence of that organization according to family which is the mark of races devoted to ancestor-worship.

Thus Sarah, when she remained barren, herself

suggested to Abraham that he should seek to obtain a child by her servant Hagar, whom he was to take as a kind of wife of the second class, like the Chinese *tsi-e*; and we also know that the Mosaic law prescribed, like the laws of Manu, that a man must marry the wife of his brother deceased without issue, and that her son should be held to be the son of the dead man; for his line must not be extinguished.

This was the idea that caused Boaz to marry Ruth the Moabitess, the widow of Mahlon, whose nearest relative he was; for he desired that the name of Mahlon should not become extinct among his brethren and people; and it was the same idea that led Tamar to commit incest with her father-in-law Judah, when she had been rejected by her brother-in-law Onan, who had become her husband after the death of Er, her former spouse; for Onan refused to give posterity to a brother whom he had hated during his life.

It is true that the Bible offers no explanation of these customs. But they seem to afford good evidence of the persistence of an organization by families, based upon primitive ancestor-worship. No doubt the Jews were unacquainted with conscious immortality as taught later by Christianity, nevertheless we may note that they sometimes admitted a belief in individual bliss in the after-life, in the case at least of certain exceptional souls. Schutz says, in his learned dissertation on Moses, quoted by Pezzani, that, after death, the soul, faithful to the inspiration of the divine spirit and clothed in a radiant body, the ethereal *nephesh*, rejoins its forefathers, the people of God. It is to the bosom of Abraham, the common father of all believers, that the souls of those who have died far from their native land fly from all corners of the earth—the souls of Sarah, of Jacob, of Aaron, and of Moses himself. At the Feast of Tabernacles the Israelites make this prayer to God:

"May his soul be bound up in the sheaves of life, with the souls of Abraham, Sarah, Rebecca, Rachel, Leah, and of such other righteous men and women as are in Paradise." The virtuous soul finds its reward

in the quickening of its love and of its intelligence, applied to the understanding of the divine laws and wishes. This heavenly existence may begin upon earth and does not entail passing the gates of death, as we see in the cases of Enoch and Elijah. As for the soul which has strayed from God, it is sent to a lower *Sheol*, the etymological meaning of which is the place of prayer, so that consequently there may be an implied idea of a purgatorial existence leading possibly to expiation. We know that *sheol* was the dwelling place of the *rephraïm*, which we translate *manes*: but as a matter of fact the word means " the weak who are to be cured " ; it would thus go to confirm the notion of a purgatory, and perhaps the theory of reincarnation, with which the Jews were certainly acquainted, for we find it expounded in the books annexed to the Bible.

If the idea of survival is, in the Bible proper, hidden under a more or less thick veil, it stands out with absolute clearness from the Cabala and the Zohar, which summarize the doctrine taught to those initiated into the Mysteries. For it appears to be an established fact that the Israelites had their Mysteries, just as much as the Egyptians and the majority of ancient races. The subjects handled in these symbolic ceremonies were the same in all countries, for they attempted to answer that obstinate questioning which is common to all men under every clime. The results attained were doubtless very much the same in every case.

The masters of the Mysteries expounded the hidden meaning of the holy book, and revealed, but only to their most approved disciples, the solution which they themselves had received of the mystery of life and its sequel. An examination of the works which may have caught some faint echoes of that mysterious doctrine is of peculiar interest.

True it is that both the Cabala and the Zohar were compiled long after the Babylonish captivity, and that they are consequently tinctured with the ideas of the surrounding peoples, but it must be allowed on the other hand that they would have lost all authority if they had

mutilated the traditional faith as handed down in the Mysteries.

The Zohar, which was compiled about A.D. 121 by Simon ben Jochai and his disciples according to former purely oral traditions, treats of the rotation of the earth, long before Galileo. Such a notion appeared at the time highly absurd and quite contradictory to the teaching of the Bible. Consequently, the early Christians, following the lead of Lactantius, combated the idea with might and main. As far as the constitution of the soul is concerned, it is very noteworthy that the Zohar plainly distinguishes the three elements before mentioned, namely, *nichema, rouah, nephesh.*

When man quits this unhappy earth he strips himself little by little, says the Zohar, of his covering of vices. His soul returns to the substance whence it came, after having, by a series of transmigrations, recovered consciousness of itself, and after having thus developed its latent perfections.

In the Bible itself occur several passages confirmatory of this notion. We are told that Hebrew children were predestinate ; and Jeremiah himself declared that he was known to God even before he was conceived. It is admitted that, at the time of Christ, the doctrine of reincarnation was taught by certain Jewish schools or sects, notably the Essenes and Pharisees ; and passages alluding thereto can be quoted from the Gospels.

We shall not further insist upon the discussions to which the eschatological beliefs of the Hebrews may give rise ; we aimed merely at showing that they were cognizant of the idea of survival. Many of them adopted it, and thus their evidence is added to the unanimous testimony of all antiquity.

CHAPTER X.

THE GREEKS.

Immortality inherent in the Traditions, Poetry, Philosophy, and Religion of the Greeks. Their Ancient Custom of sacrificing to the Shades of the Heroes. Their Horror of being deprived of Sepulture. Examples from Homer, Pindar, and Valerius Maximus. Funeral Banquets participated in by the Dead. Tombs decorated with Images of the Goddesses of Life. Hesiod's Description of the State of the Dead. Reinach's Interpretation of the Eternally Renewed Labours of Sisyphus and Others. Metempsychosis. Marks by which the Greek Mythology shows its Egyptian Origin. Results of the visit of the Poet Orpheus to Egypt. The Doctrine of Immortality formulated anew by Pythagoras. How he became initiated into the Egyptian, Jewish, and Assyrian Religions. His View of the Relations of Body, Soul, and Spirit. The Rôle of the Etheric Fluid. This Fluid as viewed by Pythagoras and by Newton. The Delphic Oracle. Heaven without Reincarnation only for the Few. Pythagoras' Theosophy. Survival the Basis of the Pythagorean Doctrine and of the Revelations made in the Mysteries. The Sacred Symbols used in the Mysteries. The Survival Idea expanded by Plato. The Influence of his Ideas in developing Christian Dogma. His Belief in Plural Existences. His Views on Man's Immaterial Part. The Objective Existence of Ideas. Resemblance between Plato's Theory of the Divine *Logos* and the Exordium of St. John's Gospel. Immortality and Reincarnation in the Writings of the Neoplatonists.

ALTHOUGH in the case of the Greeks the doctrine of immortality did not form the basis of the relations of civil life or of the national institutions, nevertheless we are compelled to acknowledge that such a doctrine was an integral portion of the traditions of the Hellenic race throughout its brilliant career. It was at all times upheld by its foremost men, whether poets or

philosophers, and was the principal subject of the teachings given at the Mysteries, when the holy doctrine was revealed to the initiated.

Going back to heroic times, we find survival already affirmed and undisputed. Warriors who have fallen in battle still preserve a life of their own beyond the grave. They are the vigilant watchers over their own cities, the protectors of their families, the invisible guests at all civil or national festivals, the trusty allies of their posterity, whom they accompany into the thick of the fight, the inspired pilots of those adventurous generations which put out to seek new countries far away.

At the outset of Greek history, especially in the early poets, such as Homer for instance, we discover the more or less crude conception which we have already remarked among other ancient civilizations and which always led to ancestor-worship.

The soul of the deceased, his shade proper (εἴδωλον), maintains a semi-conscious existence, in which it is still sensible to some physical needs, notably that of food. It is still attracted by the savour of roasted flesh, for upon that it depends for life. When Odysseus wishes to summon up a spirit he slaughters young kine, and the smell of the blood immediately brings about him the pale shades of the heroes. Starting with this idea, the Greeks, like all other ancient peoples, came to attach extreme importance to the right placing of a grave, and to the keeping up of funeral offerings; several of the intestine conflicts which wasted Greece in early times were actuated by no other motive. Deprivation of sepulture was the greatest of all calamities, and was at all costs to be avoided; for the neglected soul did not scruple to harass the living in order to obtain its due. In the Iliad, Priam humiliated himself so far as to supplicate Achilles for the remains of Hector; while, in the Odyssey, Elpenor, one of Odysseus' comrades who succumbed to an accident, appeared before him praying that his body might be burned and that he might be compelled to haunt him further. Pindar also tells us that the soul of Phryxos, who died at Colchis, rose before Pelias and asked that his remains should be

brought back to their native land,[1] and Valerius Maximus recounts how the poet Simonides was saved from shipwreck by the appearance of the shade of a dead man whose body he had taken up and interred.[2] We may also recall the brave self-sacrifice of Antigone, who did not shrink from the risk of death by her neglect of the royal prohibition to bury her two brothers Polyneices and Eteocles. The eloquent protest in which she upheld the law divine against the injustice of tyrants emphasizes for the first time the awakening of human conscience, while it testifies to the extreme importance which attached to burial in ancient Greece.

The Greeks held funeral banquets also, to which the souls of ancestors were summoned, and the head of the family kindled the holy fire upon the altar of Zeus, which was to consume the food set apart for the dead (*πανσπερμία*). By the Athenians the second day of the feast of Anthesteria was consecrated to the manes. The notion of survival, limited to a semi-material shade haunting the neighbourhood of the corpse, was bound up in the Greek mind with the hope of a future resurrection of man in his physical entirety. Of this we find evidence in the grave ornaments. As we have remarked before, the decoration of prehistoric monuments nearly always takes the form of an appeal to the powers of life. This meaning appears, even more clearly than elsewhere, in the case of Greek and Roman tombs. In them are found earthenware busts representing the goddesses of life, Demeter, Persephone, and Alcestis, and they were so placed that the goddess should seem to be rising from the earth, the lower half of her body still being below the surface. It may be added that even in the earliest times it is possible to find passages in Greek authors implying a belief in conscious immortality, together with responsibility for acts committed during life. Thus Hesiod describes the future existence of men's souls, and the two opposite alternatives awaiting them after death:

" Wrapped in fluid-like envelopes rendering them invisible the souls of the righteous wander over the earth wielding their

[1] Pythian Odes, iv. 284. [2] De dictis, etc., i. 7.

regal powers. They mark the good and evil deeds, and they extend their special protection to such as they have loved in life. As to the souls of the wicked, they are held in Tartarus, where they are punished by the ever-present memory of the crimes which they committed."

In the various myths and legends we see that certain great evil-doers are condemned to an unlimited expiation, and are compelled to renew constantly some useless, fruitless toil. Sisyphus eternally rolls his backward-falling rock; the Danaïdes are always filling a cask which still remains empty; Tityos watches his entrails ever being renewed, to be devoured by an insatiate vulture.

Owing to M. Salomon Reinach's ingenious interpretation, it is generally accepted that these strange legends only refer to a perpetuation of the form of the particular hero, just in the same way as a statue might represent his principal form of activity during life, or might depict him in the pose in which he appeared to be when death overtook him. But to our thinking the very idea of the infinite repetition of the same movements, of which antiquity never so much as suspected the meaning, testifies to the existence of a belief in immortality at the very beginnings of Greek history. It might be added that this striking picture of unavailing effort, and of unappeased but constantly renewed desire, gives, perhaps, as good an idea as may be of the state which possibly awaits the disincarnate soul still possessed, in the world beyond, of the carnal needs and desires, which it cannot satisfy. Side by side with the notion of immortality we find that of a plurality of existences, that is, of metempsychosis. The souls which are to return to earth pass the river of Lethe, drinking its waters of forgetfulness, and thus becoming oblivious of their former existence.

It is this doctrine which lies at the root of the Orphic hymns:

"Love light and not darkness. Remember the journey's end while you travel. When the souls return to the light, they wear upon their ethereal body, like hideous scars, all the sins of their lives, and to wash them away they must go back to earth. But the strong and the pure depart to the sun of Dionysus."

The idea of immortality is thus plainly set forth at the very outset of Greek history, and Aristotle is reported by Plutarch to have said that it was an opinion dating from the most remote antiquity, and to which no one could assign an author or a beginning. There can be little doubt that it came from the old civilizations of Asia, especially from the Egyptians and Phœnicians, who, as a seafaring people, were in constant touch with the Greeks. The profound influence of Egyptian art upon Greek art in its beginnings is clearly proved, and it is traceable in the arrangements of their monuments, in the form of their columns, and in the Greek sphinxes, an obvious importation from Egypt. Greek mythology likewise bears numerous marks of its Egyptian origin, especially in all that regards the nether-gods and the judgment awaiting the soul after death. Charon's barque is the vessel which carried the corpse down the Nile to its burial vault; and the dog Cerberus, which guards the entrance to the hall in which the three relentless judges pass sentence upon the dead soul, is apparently the same as Anubis, the dog-headed god of Egypt, who also played a part at the trial of souls, and whose business it was to record the sentences passed.

Numerous commentators agree in identifying the goddess of the Eleusinian Mysteries, Demeter or Persephone, with Isis, and also in considering the Dionysiac Mysteries to be one with the worship of Horus.

The legend of the poet Orpheus, who originated the Mysteries of Dionysus, informs us that he actually did go to Egypt in order to be initiated in the temple of Memphis, whence he returned with the name Orpheus —a form of the Egyptian Arpha, meaning *He that healeth by light.* He revolutionized the worship of Bacchus, whom he idealized under the name of Dionysus and assimilated to Horus, the son of the god Osiris. At the same time he introduced the Mysteries embodying the teaching which he had imbibed in Egypt and Phœnicia concerning the ultimate destiny of man's soul.

Thus a belief in immortality is affirmed, as we have seen, by the earliest of the legendary poets—by Orpheus

and by Homer and Hesiod—and was subsequently handed down, though somewhat obscured, in the Dionysiac Mysteries. Six centuries later we find it formulated anew by Pythagoras, one of the greatest philosophers the world has known. He arose in the sixth century before Christ, much about the same time as Lâo-Tsze in China and Sakyamuni in India, and his teaching was almost identical with that of his famed contemporaries. It was as if Fate had wished to bring back the three great races of antiquity simultaneously to the doctrine taught by their founders.

Pythagoras himself may be looked upon as a founder, for he contributed in no small measure to give the Hellenic character one of its most typical features in religious philosophy; and although his teaching in its entirety was unhappily reserved for the initiate, he none the less created a great philosophical school, which exerted a predominant influence upon the history of ancient thought. Like Orpheus, Pythagoras also went to Egypt to learn, and there he is said to have sojourned twenty-two years, until he reached the highest stage of initiation. His stay in Egypt coincided with the invasion of the Persians under their king Cambyses, by whose orders he was taken to Babylon, where he remained twelve years, so that he was able to become initiated by the Jewish and Assyrian priests also. Later, on his return to Greece, he was in a position to found a philosophical doctrine based upon his acquaintance with the great religions of mankind.

With regard to the nature of man, which chiefly interests us, Pythagoras adopted all the main distinctions put forward by those religions; in addition to the physical body, he asserted the existence in man of a spiritual element possessing unity and surrounded by a semi-material soul. This soul is like in appearance to the body, and remains united thereto during earthly life, for without it the body would instantly perish. It is intimately connected with the immaterial spirit which it enfolds, as the thoughts and volitions of the spirit react continually upon the constitution of the soul, attracting and repelling the semi-material elements

of which it is compounded. At death the soul finally becomes dissevered from the body, withdrawing with it the spirit, and it proceeds to a region in space corresponding to the more or less material constitution which it has formed during its terrestrial existence. According to Plato, if it is pure and righteous it soars with the spirit like some heavenly car upward to the spheres divine ; but otherwise, it falls back into the dark regions of matter.

The subtle element constituting the spirit-envelope in man is a particle drawn from that imponderable fluid filling the entire universe. This etheric fluid is a kind of living and plastic substance permeating all visible objects, and the generator of form and condition. By its agency divine thought exerts its power upon the worlds, for it is the great intermediary between the visible and the invisible, between the spirit and matter. In permeating man it becomes modified or transformed, and becomes rarefied or concentrated under the action of volition, according to the power or elevation of the spirit, whose astral envelope it forms. This is the sense in which Pythagoras views man as a kind of minute universe or microcosm. To him the material evolution of worlds and the spiritual evolution of souls appear as parallel and concordant facts, explanatory of each other.

The past history of the universe is inscribed in invisible images upon the astral light, and there, too, is pictured the future with the living souls which destiny will compel to enter the flesh. This fluid, which is spread throughout the universe, animating all beings and all forms, constitutes, to use Newton's expression the *sensorium Dei*, just as in man it is the sensorium of the immaterial spirit. It may occasionally, especially during sleep, detach itself from the physical body, and thus enter into communication with the universal ether. Thus it was that Pythagoras explained the phenomena of somnambulism, trance, clairvoyance, and prescience of the future, as manifested by the Pythia at Delphi when uttering the oracles of Apollo. It is the same explanation that we encounter in the Eumenides of

Æschylus, when he makes the shade of Clytemnestra, who appears and shows her wounds to the sleeping Furies, say: "Behold them while ye are asleep; then it is that the spirit has the most piercing eyes, for it distinguishes things that are hidden from it in the broad light of day."

The result of physical death is to replace the disincarnate soul in its astral surroundings, thus permitting it to enjoy the view of that luminous world which is hidden from it entirely during life. Then it is that it enjoys the true celestial bliss. But, as a rule, it has not acquired such a degree of purity as is requisite for the eternity of that enjoyment, and it is bound to undergo fresh incarnations, and perhaps many of them, before it can expiate its past errors and deserve final admission into the abode of the blessed.

Consequently it returns to earthly life, assuming such physical and moral condition as may be determined by the degree of progress to which former existences have brought it. It sets out, so to speak, on a fresh march along the road of eternity. This is precisely the doctrine of successive lives which we have already met with in the occult teaching of primitive religions. Pythagoras adopted it, making it more precise; and although he communicated it to none but the initiate, he did not hinder entirely the spread of his secret doctrine; he was even considered in classical antiquity to have been its original inventor.

It is by reincarnation that Pythagoras explained the inequality of human conditions with its apparent injustices; and he endeavoured to solve the impenetrable mystery of the existence of good and evil. In his view man in his present state is placed half-way between two opposite worlds—the world of matter, to which he is still partially attached and which is governed by the law of destiny with all its unconscious and inevitable fatalities, and the luminous world of the spirit, which has laws of its own as yet undiscovered, but which are not blind like the laws of matter; they merely carry these latter to their completion in that immaterial world, of which they correct the injustices,

and thus reduce them to harmonious concord in the accomplishment of the Divine Being's secret design.

Following the theosophical doctrine, Pythagoras considered the soul as being triple in its essence; instinctive in so far as it felt the necessities of material life and the physical world; animic in so far as it was sensitive to the various emotions of affection, hatred, or the passions; and intellectual in so far as it rose to the comprehension of divine laws. These three elements are united into one whole constituting the human soul, which is itself governed by the personal ego, volition. They nevertheless preserve a certain relative independence permitting us to suppose that they do not remain eternally united after death.

Not only to avoid repetitions, but also to avoid going into the very debatable details of a doctrine which is known only in its broad outlines, we do not think it necessary to expound the philosophical doctrine of Pythagoras any further. In afterwards discussing the hypotheses of the theosophical school, we shall have occasion to recur to it; for that school is directly connected with the teachings of the great philosopher, whom it looks upon as one of the earliest originators and masters.

Faith, therefore, in survival, which lies at the root of the Pythagorean doctrine, is also the basis of those occult revelations which were made in the Mysteries so famous in antiquity; for the initiates discovered under more or less obscure symbols, gradually explained to them, an insight into the future destiny of man's soul. Unhappily we lack complete information as to those Mysteries, and we cannot estimate their teaching in all its completeness. We can, however, assert, upon the concordant testimony of ancient authorities, that it was connected with the Pythagorean tenets, and admitted plurality of the worlds and successive existences of the human soul, together with the dogma of divine unity. This circumstance is all the more readily explained, because, as we have already seen, it coincides exactly with the teaching of ancient religions; and Pythagoras appears to have possessed acquaintance

with the movement of the earth, which he acquired without doubt from the Egyptians. According to Pythagoras, the principal aim of the Mysteries was to disclose to their votaries the hopes which death offers; and this the herald proclaimed at their beginning, after having pronounced the sacred formula ἔκαι ἔστω βεβήλος, commanding the uninitiated to withdraw.

"You are here," he cried, "upon the threshold of Persephone. To understand the life to come and our present state, first must be undergone the necessary test, which consists in passing through the realm of death. That ye may enjoy light, ye must know how to brave darkness."

The initiate then received the holy articles, the meaning of which he was to discover later; the fir cone or symbol of generation, the serpent coiled in a spiral, representing the evolution of the soul, and last of all the egg, which was a token of the resurrection.

Meanwhile the story of Persephone, passing by turns from heaven to hell, was acted before him as a kind of ritual ceremony, and he was taught to see therein a symbolical presentment of the human soul in bondage to matter during earthly life, and delivered over to all kinds of torments and monsters in the next world, if it had become the slave of its passions. If, on the contrary, it had succeeded in becoming pure by restraint, it awoke spotless and bright, and joined its mother Demeter, the symbol of divine intelligence.

The teaching of the Mysteries remained with the initiate, but the doctrine of survival, which formed its essential part, was openly maintained by the majority of Greek philosophers, and after Pythagoras it found an exponent in the most illustrious among them, the divine Plato. He took up the idea and expanded it to such good purpose that to this day he has remained the undisputed master of all spiritualistic schools. Platonic ideas even made themselves felt in the development of Christian dogma; and the Fathers of the Church, struck by the analogies between his philosophical conceptions and their own religious teachings, saw in the great Greek philosopher a true forerunner of Christ,

Who had brought into the pagan world an echo of the primitive revelation. In the beautiful dialogue "Phaedo" Plato tells us that the conscious part of man is immortal. He clearly distinguishes two contrary elements—the physical body and the immaterial soul; the former complex and constantly changing, liable to death and dissolution, the latter elementary and indestructible, always identical with itself in its voluntary and conscious principle, immortal and like to the divine. At death the soul is purified by its severance from the physical body, but must render account to the gods of its employment of life. If the soul reaches the great beyond unsullied by the body which it had animated, having avoided all opportunities of taint, and having concentrated itself inwardly in the search for truth and for the knowledge how to die properly, it is taken into the bosom of the Supreme Being, which is immaterial like itself, undying and full of wisdom. It is freed from its errors, its ignorance, and its fears, and, say those initiated into the Mysteries, it lives in eternity with the gods. As for the guilty souls, they undergo the penalties befitting their misdeeds, and are purged from their sins before receiving the reward of their good works.

Souls that are not wholly guilty return bodily to life, there to undergo a fresh trial, oblivious of their past existence. In the mind of Plato, as in that of Pythagoras, the doctrine of survival was supplemented by the doctrine of plural existences. The souls are older than the bodies, and are reborn in Hades before returning to earthly life. According to a conception reminiscent of the Chaldean *ferohers*, each man possesses a dæmon which follows him in his consecutive lives and leads him after death down into the lower world for his trial. Many souls go into Acheron, and after a certain space come back to earth for re-embodiment. Unpardonable offences hurl the soul down into Tartarus.

Man has recollections more or less clear of his previous lives, and these recollections take the form of intuitive knowledge. Innate ideas are a phase of this kind of memory; they are property saved by the soul from its

various incarnations. It cannot be decisively stated whether Plato accepted the possibility of the re-embodiment of a human soul in the body of an animal or in plants; perhaps he shared on this point the views of his master Timæus of Locri, who saw therein a potent means of acting on the popular imagination, or perhaps he feared too openly to reveal the doctrine of the Mysteries. As far as regards the constitution of the immaterial part of man, Plato admits, as did Pythagoras before him, that it is a complex assemblage of relatively independent elements. Foremost he places the immaterial soul, the spirit properly so called, the λόγος, possessing consciousness, intelligence, and volition, capable of choosing between good and evil; he locates it in the head, and confers upon it alone the character of indissoluble unity as well as immortality. Lower down come two semi-material, fluid-like souls which are doomed to perish; one is the seat of the passions and of the affections and is located in the heart, while the other is the seat of all sensual desires and is placed in the liver.

These two souls are devoid of reason, but are gifted with strong powers of perception and volition; they are in connection with the reasoning soul, the spirit, which is cognizant of what goes on in them and issues instructions to them.

The famous theory of Plato regarding ideas is well known. These he views as images created by the mind, and he attributes to them an objective existence. We have thought fit to mention this theory here, because it has been revived under slightly altered form by the modern theosophical school. Plato regards ideas as really distinct entities, the eternal objects of divine thought, and not merely the acts of that thought. He ascribes an objective reality to such abstract ideas as "the true," "the beautiful," "the good," which he makes the necessary archetypes of all good thought, the living forms which our soul comes to perceive in proportion as it is worthy to do so. Soaring still higher, he does not hesitate to affirm the objective existence of supreme Reason, the divine *logos*, previous to the

creation, the laws of which it renders concrete, and which it maintains by the constant renewal of its providential activity.

This fine theory, which agrees in certain respects, as we have seen, with the great primitive doctrines was subsequently taken up by the Neoplatonists of Alexandria. It also inspired the magnificent exordium of St. John's Gospel, which sees in the independent personality of Christ divine Reason itself, the Word *par excellence*, the *logos* uncreated.

We know that besides this conception of the *logos* the Neoplatonists also adopted Plato's idea concerning the immortality of the soul and its plurality of existence. This we find asserted in the works of their principal writers, such as Plotinus, Porphyry, and Jamblichus. It was, moreover, under the influence of the Alexandrian school that belief in the immortality of the soul spread through Judea about the time of the coming of Christ. Already it was accepted by certain important schools, such as the Pharisees, and especially the Essenes, who seem to have possessed wider acquaintance with the holy doctrine, as we remarked in treating of the Jews.

CHAPTER XI.

THE ROMANS.

Roman Ideas and Institutions bequeathed to Modern Civilization. Resemblance of the Ancestor-worship of the Romans to that of the Chinese and other Ancient Nations. Care of the Romans for the Happiness of the Shades. Offerings to the *Lares*. Functions of the *Pater*. The Absolute Need of Heirs in every Family. Importance of the Tutelary Deities at all Family Ceremonies. Relation of City Government to Family Organization. Patricians and Plebeians. Recognition of the City Gods in Wars and Treaties. The Etruscans probably acquainted with the Egyptian Doctrine of the Nature of Man. Testimonies of Cato and Cicero. Roman View of Immortality not Personal, but Collective. Fear of the Future Life combated by Lucretius, and shared in by Virgil. Belief that the Souls of the Dead lived in or near the Grave. Spirit-raising. The *Animus* and the *Anima*. Ovid's Recognition of Transmigration. Survival taught in the Æneid. How Rome was prepared to receive the Christian Doctrine of Personal Immortality. Spread of this Doctrine throughout the World.

THE Romans, who come last among the races of antiquity, are found practising ancestor-worship from the very outset of their history. Doubtless they borrowed it from yet earlier peoples. Upon it they founded the peculiar family organization which contributed in no small degree to their wonderful success as a nation. Throughout the ages they preserved the institutions which they had thus founded, albeit they had long forgotten the originating ideas. Those institutions they bequeathed to modern civilizations, for we can still discover their mark upon our laws and customs at the present day. Despite the way in which they always held aloof from metaphysical speculations, the Romans nevertheless exerted a deep influence upon the evolution

of the idea of survival—an influence mainly due to their political preponderance. As they absorbed the nations whom they conquered, they brought about the union and fusion of doctrines up to then the special property of various races, and they thus paved the way for the transformed dogma which was to guide mankind in modern times. In this sense it might be said that they formed an epitome of the history of antiquity, at the close of which they stand.

Like those of the majority of primitive races, the institutions of ancient Rome were based entirely upon the notion of the collective immortality of ancestors, and upon the need for perpetuating the sacrifices requisite to them in their existence beyond the grave. Fustel de Coulanges has demonstrated this fact beyond room for doubt in his great works upon the subject. We now possess decisive confirmation in the comparison which we can institute with the parallel customs of all other ancient peoples, and especially with those of the nations of the Far East by whom they are still preserved.

Throughout the whole family system and throughout the provisions of private law there exists so complete an analogy, even extending to minute details, that what we have already advanced with regard to the Chinese may be applied, practically without modification, to the Romans. Both cases are merely the putting into practice of an identical principle and identical beliefs.

In agreement with primeval belief, the founders of Rome admitted that man embodied an immaterial element, the less subtle part whereof remained confined within the tomb and was more or less subject to the necessities of mortal existence, whereas the purely immaterial part became united with the ancestral souls, forming with them the collective deity of the family. Starting with this notion they were led, despite all differences of race, time, and locality, to precisely the same conclusions which other races had drawn independently, from precisely identical premises.

The one chief duty, to which all others are subordinate, is to insure the peace and happiness of the shades in

the life beyond. The grave thus assumes a sacred character and can be violated by no one with impunity. The head of the family is bound to see to its upkeep and to make the ceremonial offerings to the manes, which are semi-material ancestral souls. By his hearth are the *lares*, also emanations from the ancestral souls, which perhaps took refuge in the family statues with which the patricians decorated their houses, much in the same way as did the Chinese *huën* in their sepulchral tablets.

To them also he must offer the first fruits of the banquet and the garden, which must be laid upon the *acerra*, or consecrated altar, and thus the family may be sure of the protection of its defunct members, who are always present among them. The head of the family, by virtue of his office of "King of the sacrifices," enjoys sovereign authority among his own, and this was expressed in the name *pater*, which only later became restricted to the meaning of father. If, however, he could inflict punishment at discretion upon all the members of his family, whom he was empowered even to kill, he was bound, on the other hand, to insure the continuity of the sacrifices by leaving as his successor a male child either of his own blood or his by adoption.

A family which became extinct involved the cessation of worship and the misery of the ancestral souls, thenceforth deprived of the offerings which served to support them in the life beyond. All kinds of legal measures were aimed at preventing such a misfortune or at hindering the admission into the family of children who might prove unworthy, and we find, at this early period, the same family institutions which the Chinese have preserved to the present day. Celibacy was rigorously prohibited; but, on the other hand, the new-born infant must be recognized by the father and by him be formally admitted to take its place in the family, after having been presented to the hearth-gods. All events which went to carry on the family had to be ratified by religious ceremonies, without which they would not have been legally valid; and to these ceremonies the tutelary deities were regularly summoned.

In the Roman household, even as nowadays in China, these deities were present, albeit unseen, at the admission not only of the new-born child but also of the young bride who came to take her place at the family hearth, in order to perpetuate their lineage. They received the renunciation of the maiden who, when about to enter a new family, required their consent to leave them. Finally, they were always at hand to receive into their midst the souls of such of their children as were about to die.

The family was thus based in the main upon religious considerations, and the rights of its members were determined solely according to their fitness to represent the ancestors at the holy ceremonies. Male children alone were qualified to offer sacrifice to the gods; consequently women remained always minors, possessing no family rights, for at the sacrifices they were necessarily represented by a male relation. They likewise conferred no title upon their descendants, and in early Roman law inheritances were transmitted only to *agnati*, or relations on the male side, and not to *cognati*, or relations on the female side. The latter, not possessing the same gods, could not be united in the same grave. The internal organization of the family passed to the city itself, as has been well shown by Fustel de Coulanges. Families that had descended from a common ancestor, whom they met to worship upon certain holy days, combined to form the *gens*; and the union of several *gentes* later constituted the city, which in some way absorbed into its constitution the ancestors of them all.

Political power in the city fell to the heads of the patrician families, who alone possessed gods to worship. The plebeians, who had no family gods, were inevitably excluded; and it was only after they had succeeded in establishing a relationship with the public gods that they could participate in the government of the city.

The earth of the hearth and the soil of the grave were inalienable, and could not be renounced by the head of the family without sacrilege. In like manner, the city was bound to preserve intact the place assigned to

its gods, and if a catastrophe compelled the citizen to emigrate, they were bound to preserve their national gods in their midst; and this was done by carrying with them the holy stone and fire of the hearth, and a sod of the native earth, so that there should be no interruption of sacrifice. This was what engaged the principal attention of Æneas as he left the smoking remains of the city of Troy. The city gods were always bound up with the varying fortunes of the city; they took their part in its wars and also in the treaties which put an end to hostilities. Usually it was stipulated that the citizens of either contracting party should have the right of invoking the gods of the other city together with their own, and Rome never omitted to carry off and place in her own temples emblems of the gods of the conquered cities.

This rapid survey of ancient institutions shows us how the same religious considerations that had originally determined the organization of the family spread by degrees to the city as well; and thus we come to grasp the paramount influence exercised by the idea of immortality upon the whole of antiquity.

We have just seen how the founders of ancient Rome were influenced by the idea of survival. Independently we know that the first inhabitants of Latium also held this belief. Recent archæological discoveries carried out in the valley of Castel d'Anio near Viterbo have disclosed the fact that the Etruscans excavated underground sepulchral chambers, the arrangement of which is almost indistinguishable from that of the Medinet-About tombs in the neighbourhood of Thebes. It is therefore permissible to think that they must have been acquainted with the Egyptian doctrine regarding the nature of man. Moreover, we are told by Cato that the Etruscans admitted the immortality of the soul, and Cicero also quotes them in support of the theory that primitive peoples, being less remote from the beginnings of things, and receiving direct inspiration from the gods, possessed also a better acquaintance with truth. It was originally, says Cicero, the universal

belief of mankind that death does not destroy a man entirely.[1] Elsewhere, in the often-quoted passage from the seventeenth chapter of "Scipio's Dream," Cicero explicitly states his belief in immortality.

"Know," he says, "that it is not thou, but thy body alone which is mortal. The individual in his entirety resides in the soul, and not in the outward form. Learn, then, that thou art a god; thou, the immortal intelligence which gives movement to a perishable body, just as the eternal God animates an incorruptible body."

Lactantius enables us to refer to the affirmations of certain pagan oracles and of the *sibyllæ* in favour of immortality. It cannot be disguised, however, that especially under the Republic the Romans never set store by the idea of personal survival, as did the Gauls for instance, and few of them endeavoured to rise above the traditional belief of primitive races, which blended all the souls of ancestors into a kind of collective being constituting the family type.

Doubtless Roman philosophers did also have glimpses of the notion of conscious immortality. But to them it was a matter for dubious discussions, or a desire tinged with regret, rather than an actual truth. Lucretius will have none of it; but the energy which he displayed in combating the idea is rather an indication that it still possessed considerable vitality in the minds of his contemporaries. "The fear of eternal life," he says, "should be banished from the universe; it troubles the peace of mankind, for it prevents the enjoyment of any security or pleasure."[2]

Later, his disciple Virgil, in the "Georgics," envied the happy lot of that bold philosopher who saw the ultimate cause of things, and was able to overcome the bugbear fear of a world beyond, and to stifle the imaginary rumblings of Acheron.

It is known how generally superstitious the Romans were. They were ceaselessly kept on the tenter-hooks of anxiety to please occult powers and unseen genii, whose will they sought to know by augury; and one can understand how Lucretius, in wishing to trample

[1] Tusc. Disp. i. cap. 12. [2] De Rerum Nat., lib. i.

upon such superstition, came to reject the notion of immortality altogether. He did not, however, succeed in removing so time-honoured a tradition from the mind of his fellow-countrymen, and we know that the Romans never lost faith in a certain species of survival, limited to the grave and the neighbourhood of the dead remains.

That is what Cicero meant when he wrote: "Subterra censebant reliquam vitam agi mortuorum." Virgil, too, describes the shade of Dido passing beneath the earth. In another passage also he speaks of Mezentius, who, when about to fall beneath the blows of Æneas, asked as a final boon that he might be placed in the grave by the side of his son.[1] The Romans were constantly obsessed by the thought of burial, even until the rise of Christianity; and St. Augustine, when writing his "City of God" (end of the fourth century, A.D.), made a point of showing that deprivation of sepulture need not disturb believers.

That the idea of immortality was constantly present in the Roman mind during the last years of the Republic we have proof in the frequency of ceremonies to summon up the dead. Cicero tells us the story of his client Vatinius, who did not scruple to sacrifice children in order to obtain communication with the shades; and we meet with numberless examples of spirit-raising among the works of the Latin poets contemporary with the great orator.

The pious hero of the Æneid calls up the soul of Creusa. In Lucan's poem Sextus Pompeius evokes the soul of a Roman soldier who died before the battle of Pharsalus.[2] In Silvius Italicus, Scipio Africanus causes his uncles to appear before him, and they are like empty shadows, of which he cannot take hold.

The Roman authors admit, moreover, that death sets free from the physical body some immaterial element, which they do not, however, attempt to define precisely. Lucretius himself speaks of this element escaping from all the pores of the body. He calls it

[1] Æneid, x. 896-906. [2] Æneid, vi. 580-830.

the *animus*, the breath by which will-power is propagated. The will-power resides in the breast and acts upon the various organs through the intermediary of a subtle fluid which he terms *anima*.

Later, Pliny the Younger when discussing the material existence of phantoms, seems to incline toward the affirmative. Ovid, who must have been, at least partially, acquainted with ancient doctrine on the subject, clearly distinguished several elements in man :

> " Terra tegit carnem, tumulum circumvolat umbra ;
> Orcus habet manes, spiritus astra petit."

Earth covers the flesh, the shade flutters about the tomb ; Orcus holds the manes, and the spirit rises to the stars.

Elsewhere Ovid asserts the immortality of the spiritual principle in so many words, and espouses the doctrine of metempsychosis, which appears to him to be a necessary conclusion to be drawn, as indeed the ancients had thought, from the spectacle of constant transformation presented to us by nature.

" Nothing perishes," he says, " everything changes here upon earth ; the souls come and go unendingly in visible forms ; the animals which have acquired goodness will take upon them human form." Later, when describing the successive lives of Pythagoras, he recurs to the doctrine of the transmigration of souls :

> " Morte carent animæ, semperque priore relicta
> Sede, novis domibus habitant, vivuntque receptæ."

Virgil, the disciple of Lucretius, who in his " Georgics " sets the fear of death at defiance, as we noticed above, again takes up the doctrine of survival in the Æneid. We there see Anchises teaching it to his son Æneas, together with the details of the new birth. " After death," he says, " the souls come to the Elysian fields or to Tartarus, and there meet with the reward or punishment of their deeds during life. Later, after drinking of the waters of Lethe, which takes away all memory of the past, they return to earth."

We can here immediately recognize the influence of the great primitive doctrines reasserting themselves in the Imperial City at the moment when it had become mistress of the world. The city had taken into her midst representatives of all the conquered countries, and through them had come to know the teaching of ancient wisdom under many and often contradictory garbs. But, in the stern faith of Chaldeans and Gauls, in the supreme majesty of the God of Israel, in the mysterious dogmas of old Egypt, in the veiled symbolism of the worship of Isis, in the bloody sacrifices of the cult of Bel and Ashtaroth, in the delicate legends of the Greeks, in the Mysteries of Demeter and Dionysus, Rome might read that same persistent affirmation which we have discovered in our study of ancient civilizations; she might gain conviction of the resurrection, and the powerlessness of death to annihilate man. Thus, as we remarked, Rome was admirably prepared to receive and propagate the doctrine of individual personal immortality, which Christianity was to bring into the world.

Already Seneca was teaching that death is the necessary road by which we pass to life eternal, and in the second century Celsus could write, in a discussion with Origen, that belief in a future life was not peculiar to Christians, but was common to them with the whole world.

CHAPTER XII.

CHRISTIANITY.

Immortality brought to Light in the New Testament. Christ's Teachings on Heaven, Hell, the Resurrection, and the Last Judgment. Divergences of Opinion regarding the Interpretation of the Resurrection and the Judgment. Immortality proved by the Raising of the Dead, by Christ's Statements, and by Paul's Argument. The Glorified Body of Christ a pledge of the Resurrection Body of Christians. The Influence of Science in modifying Theological Views of the Resurrection. Constitution of the Soul. Theory that the Glorified Body exists now in the Physical Body. This Fluid-like Body and Pre-existence both disregarded in Traditional Doctrine. Declaration by the Councils of Constantinople and Chalcedon that Human Destinies are fixed for ever at Death. The Notion of Pre-existence not condemned in the Gospels. Hints of it in the Cases of John the Baptist, the Man that was born Blind, and Nicodemus. Believed in by Origen and St. Augustine. The Last Judgment accepted in the Religion and Philosophy of the Principal Civilizations and in Christianity. Opinions regarding it held by St. Ambrose and St. Augustine. Premonitory Signs of the Judgment. The Judgment itself, Modification of the Popular Idea of Hell in Times of Origen, St. Gregory, and St. Augustine. Dante's "Inferno." Man's Inability to conceive the Joys of Heaven. The Legend of Alfin, the Monk of Olmutz. Degrees of Glory in Heaven. Possibility of Forgiveness after Death. Gradual Rise of the Notion of Purgatory. Decision of the Council of Trent. Necessity of the Doctrine for the Comfort of Christians. Sale of Indulgences the Chief Cause of the Reformation. Purgatory a Felt Want in Protestant Churches. Conditional Immortality.

If the notion of a future life lacks precision in the Old Testament, it is affirmed with full distinctness in the New. All the promises and threats which the Bible had up till now pronounced, chiefly as affecting life on earth, were henceforth extended so as to embrace

also the existence beyond the grave. All rewards and punishments were henceforward to be sought in the conscious immortality awaiting man beyond the tomb, and this new conception forms the final step in the evolution of doctrine. Albeit it was not unknown to ancient religions, it had as a rule been regarded only as pure theory, whereas the Christian dogma made of it a living and very cogent reality. To Christian dogma is due, so to speak, the awakening of the human conscience, for it showed that the soul of the righteous cannot remain satisfied with mere superficial formalism, but that thought itself is an act which would have to be answered for in the presence of that impartial Judge whose eye penetrates the most hidden corners of the conscience.

The fundamental idea of the teaching of Jesus is that He comes in the name of the Father to bring salvation and life to such as believe in Him. But His kingdom is not of this world; His disciples must, on the contrary, suffer upon earth for His sake, with the knowledge that their virtues will be rewarded hereafter in paradise. The righteous thus redeemed by the sacrifice of the Saviour will gain a life of blessedness; sinners will be cast away like the useless branches of the barren fig-tree, and thrown into perpetual fire. The antithesis between these two opposite eternities rests upon the most precise affirmations, which constantly recur in the text of the Gospels: namely, that of the resurrection to eternal life, and that of the last judgment. The resurrection applies to man in his entirety, who will rise again with his physical body, albeit transfigured, for there will be neither distinction of sex nor material wants. The body of the righteous will become purely subtle, and will henceforth lead a spiritual life contemplating the divine perfections.

"For in the resurrection they shall neither marry nor be married, but shall be as the angels of God in heaven." [1]

This resurrection will take place simultaneously with the judgment and will mark the end of time. The angels will blow upon their trumpets at the four corners

[1] Matt. xxii. 30.

of the earth, and will loose the cataclysms precursory of the destruction of the universe. At their summons the dead will arise from their graves to appear before the Son of God, Who will come to judge in all the majesty of His power and glory. And He will set the righteous upon His right hand, and afterwards will bring them into His heaven of felicity; and the reprobate He will set upon His left hand and will cast them into the everlasting flames of hell, where there shall be tears and gnashing of teeth.

And He will say to those on His right hand: "Come, ye blessed of my Father, possess you the kingdom prepared for you from the foundation of the world"; and unto them on the left hand: "Depart from me, you cursed, into everlasting fire." [1]

The resurrection of the dead, and the last judgment preceding an eternity of felicity or suffering, destined to reward each man according to his works, are the fundamental dogmas, so to speak, epitomizing the teaching of Christ with regard to the life to come. As they rest, however, upon a general principle and do not enter into the details of its application, it may be easily understood that their interpretation should have led to divergences of opinion which are still under dispute among the Christian Churches. These differences of belief were already visible in the early days of Christianity; for Christian eschatology did not at once assume its definitive form, and during the first centuries of the Church certain theologians professed, with regard to the nature of the soul and the plurality of existences, theories analogous to those entertained by the initiated of antiquity.

In proportion, however, as the new religion gained authority, these theories gradually lost theirs, and when toward the fourth century doctrines upon these points grew more defined, Christianity adopted the least complicated view, which considers the immaterial portion of man as forming an indivisible element, created specially with a view to the present existence. At the same

[1] Matt. xxv. 34, 41.

time the world was regarded as being the centre of the universe, and no heed was given to the knowledge possessed by the great religions concerning these fundamental problems.

Among the traditions thus set aside, some were formally condemned, others were merely abandoned, and can thus be revived, should scientific observation require it. We are about to give a rapid outline of what is usually taught concerning the doctrine of the four main points of eschatology, namely, the resurrection of the body, the constitution of the human soul, the last judgment, and the life eternal. In each case we shall mention the divergent interpretations to which it has been subjected.

After the Master had left them and had ascended into heaven, the Apostles were scattered over the world to preach His gospel, and in doing so they insisted most of all upon the dogma of resurrection ; they showed that Christ had issued from the tomb, triumphing over death through His own power ; that during His sojourn upon earth He had brought back to life several children of men, such as Lazarus and the son of the widow of Nain, thus giving visible proof of the immortality of man. Christ, indeed, said : " I am the resurrection and the life ; he that believeth in me, although he be dead, shall live ; and every one that liveth and believeth in me shall not die for ever." [1]

When St. Paul came to Athens and expounded the Christian dogma before the Areopagus, he instanced the resurrection of Christ as affording indubitable proof of His divine mission ; [2] and elsewhere also he uses this fundamental miracle as an argument to show that we all are to triumph over death, even as Christ : " Now if Christ be preached that he arose again from the dead, how do some among you say that there is no resurrection of the dead ? " [3] " And we will not have you ignorant, brethren, concerning them that are asleep, that you be not sorrowful, even as others who have no hope. For if we believe that Jesus died and rose again,

[1] John xi. 25, 26. [2] Acts xvii. 31, 32.
[3] 1 Cor. xv. 12.

even so them who have slept through Jesus will God bring with him. Wherefore, comfort ye one another with these words." [1] "So also is the resurrection of the dead. It is sown in corruption, and it shall rise in corruption. . . . It shall rise in glory. . . . . It shall rise a spiritual body." [2]

In the eyes of the faithful the resurrection of Christ constitutes the essential and decisive miracle among all; it is the foundation of faith in this life, and the substance of their hopes in the life to come. The body of glory in which Christ appeared at His resurrection furnishes us with some idea of the transfiguration which awaits the bodies of the righteous, when, at the end of time, they shall be raised by the divine power of the Master. Doubtless they will be freed, even as He was, from the bondage of matter; will be able to defy gravity, pass through obstacles, radiate through opaque substances, become invisible, and assume or divest themselves at will of the material form with which Christ was clothed to the bodily eyes of His apostles. All these features of the life of Christ, as related in the Gospels, aid us in representing to ourselves more clearly than we should otherwise be able to do the condition which awaits the glorified body in its new existence.

Despite the transfiguration which is to modify so profoundly the physical body, the resurrection is almost invariably understood even nowadays just as it was by Job. "In my flesh I shall see my God," [3] he says; and the vast majority of Christians still wonder at a resurrection which shall result in the reassembling of the very molecules which constituted the body during life.

So literal an interpretation must of necessity be rejected, now that scientific discoveries have proved, as we shall see, that resurrection of such a kind would be contrary to real fact. Most theologians no longer hesitate to admit that all we need recognize is the identity of the immaterial principle by which the life of the body is maintained, and from which it derives its particular form; that principle is not to be sought

[1] 1 Thess. iv. 12, 13, 17. [2] 1 Cor. xv. 42-44.
[3] Job xix. 26.

in the individual molecules constituting the body. St. Thomas, it should be noticed, already had such an explanation in view when he compared the identity of the body with that of a state composed of citizens of different ranks, each performing his own peculiar function. The individuals change, and others take their place, but the various classes of citizens are always represented, and the various functions are always performed. We shall recur to this point when we come to examine the notion of a life to come, in the light of present knowledge; but it is interesting to bring out thus early the influence which science has had upon the interpretation of traditional dogma; we shall see, moreover, that this example is but one of many.

The soul of man is immortal, immaterial, and incorruptible; and doctrine considers it as constituting an immutable and indivisible entity, but does not go into any discussion as to whether that entity embraces at once all the various faculties embraced by the soul, or whether we are not right in connecting, as did antiquity, those faculties with intermediary elements susceptible of certain physical modifications during life.

This more complex conception has been tacitly thrust aside without ever having been explicitly condemned. It cannot, however, be denied that it is in some degree substantiated by the idea of a glorified body such as we have had occasion to notice. If, according to traditional dogma, the glorified body is at the end of time to reveal itself in its normal manifestation, it is perhaps not over bold to suppose that it already forms the fluid-like envelope of the discarnate soul in the life beyond the grave, and that it therefore must exist, in embryo at least, in the physical body which it leaves at death in company with the soul. It is this alone which can account for certain manifestations—exceptional doubtless, yet uncontested—such as apparitions and the phenomena of bilocation, of which we find examples in the lives of the saints and in historical annals, and to which not only the dead but also the living have given rise. It is quite permissible to ask whether we

do not here come into contact with the fluid-like body which antiquity imagined to form the necessary link between the immaterial soul and the physical body, the inevitable envelope of the soul in the life beyond the grave.

Whatever may be the case, traditional doctrine did not think it necessary to retain explicitly the notion of a fluid-like body, and perhaps, in the desire to be as simple as possible, it confined itself to distinguishing two opposed elements, namely, matter and spirit, the combination of which constitutes the living human being. It was the same desire for simplicity that led to the rejection of the idea of pre-existence or reincarnation. It was thought, as we are told by St. Methodus and St. Epiphanes (fourth century), that such an idea was only with difficulty reconcilable with the idea of a resurrection of the flesh—that is, of the identical body.

Although it was the general belief at that time, it would have been necessary to admit that the resurrection did not apply to the carnal body, taken at some determinate moment of its existence, but, on the contrary, applied to the substantial principle endowing it with form and properties, and which will rise again transfigured and, to use St. Augustine's phrase, without defect or deformity.

Orthodox doctrine, on the contrary, fixed upon the simple idea of souls being created only at birth, and of their consequently receiving direct from the Creator those unequal faculties to which they testify during life.

On the death of the physical body they leave time and enter once more into eternity, and the destiny of each one of them is fixed for ever beyond the possibility of all modification. This conception, which is an epitome of traditional dogma, seems to be discernible in the decisions of the two Councils (Chalcedon and Constantinople) condemning the heresy of Origen. It has been maintained that this condemnation did not have in view the doctrine of pre-existence rightly interpreted, but certain particular theories of this great theologian, who adhered too closely to the Gnostic school, although

he had opposed it from other points of view. He taught, indeed, that man had primarily been created of angelic nature, and that his material incarnation was the fruit of the original sin. It may be remarked that the notion of pre-existence is several times mentioned in the Gospels without explicit condemnation. We have already observed, in speaking of the Jews, that this notion formed, at the time of Christ, part of the teaching of divers religious schools; we know, moreover, that, according to a belief frequently admitted, the great forefathers, like Abraham, Isaac, and Jacob, and even the most venerated among the prophets, would one day return to earth in a new incarnation. Many of the Jews, in fact, did ask whether Christ was not one of those prophets, and in St. Matthew we hear the question being asked by the disciples themselves.[1]

Almost every one imagined that John the Baptist was a reincarnation of Elijah, and the literal text of the Gospel does not condemn the opinion. John "is the Elias that is to come." [2]

"But I say to you that Elias is already come, and they knew him not, but have done unto him whatsoever they had a mind. So also the Son of Man shall suffer from them. Then the disciples understood that he had spoken to them of John the Baptist."[3] And when Jesus healed him that was blind from his birth, the apostles asked whether that man had been not struck with blindness at his birth in punishment for sins that he had committed in a former life; and Christ simply rejected that explanation, without formally denying the principle.[4]

Elsewhere he says to Nicodemus that, in order to see the kingdom of God, man must be born again.[5] And if this saying is generally understood to-day to bear a symbolical meaning, it is none the less possible to take it in the literal sense.

The perusal of the above passages at once explains the difficulties encountered by the early Christians in deducing therefrom a precise eschatology, such as would

[1] Matt. xvi. 14. [2] Matt. xi. 14. [3] Matt. xvii. 12, 13.
[4] John ix. 2, 3. [5] John iii. 3.

be accepted by all; and, as a matter of fact, early theologians put forward widely divergent opinions on the point. Lactantius, who lived at the end of the third century, opined that the idea of the soul's immortality implied the idea of pre-existence. The condemnation of the heresy of Origen likewise fell upon the theory of reincarnations, of which he had been the most authoritative upholder. We know, however, that this latter idea long claimed numerous partisans among Christians, as is instanced by the letter of St. Jerome to Demetriades in A.D. 415. St. Augustine, although he opposed the doctrines of Origen, appears to accept it when he thus delivers himself in the "Confessions": "Did I not live in another body before entering my mother's womb?" [1]

These divergences of opinion, of which we shall encounter further examples when speaking of the future destiny of the human soul, demonstrate that Christian eschatology is fixed only in its main lines, and that it involves numberless secondary questions which have not yet been definitely settled. It is, therefore, permissible to think that the traditional interpretation may still undergo modifications if necessary. But this is doubtless a question of metaphysics and theology, and we shall not attempt to discuss it from the point of view of science proper; but at the same time we do not forget that the appearance of the astral body, when once clearly established, is of a nature to lend a serious, if not decisive, argument to the discussion.

The idea of a last judgment was already admitted in the doctrines of antiquity, and was a part at all events of the teaching imparted to the initiate. We have seen it, in fact, in the religious dogmas and philosophical beliefs of the principal civilizations which we have hitherto studied. The idea is again taken up and affirmed with fresh energy in Christian eschatology, which views it as the necessary reward of the acts of the present life. The Gospel distinctly tells us that at the end of time, as we observed above, the Son of Man

[1] I. cap. vi.

shall again appear upon earth to deliver that awful sentence which shall decide the eternal destiny of every man, and especial insistence is laid upon the cataclysms which shall herald His coming.

The dogma of the last judgment formed, therefore, an integral portion of the faith of the first Christians; but in this case also, though the principle was accepted unanimously, the details of its application gave birth to certain difficulties. In the first place, it was necessary to determine what should be the transient fate of the dead during the time which should elapse before that dread day of the beginning of eternity, when the notion of time would be destroyed together with the material world. Accordingly, it was laid down that the dead soul would be summoned to undergo an individual trial in the presence of God immediately after decease—a trial independent of the last judgment of all souls simultaneously. St. Paul tells us that it is appointed unto men once to die, and that death is followed immediately by the judgment of God, Who gives to each one according to his works.[1] This first appearance before the Supreme Judge determines once and for ever the eternal destiny of souls, seeing that they are impotent to do anything in order to modify it; all that the general judgment can therefore do is to confirm a decision already given, and to interrupt for an instant the eternal bliss of the chosen or the misery of the reprobate. The early Christians, however, hesitated to admit the immediate putting into execution of the sentence; St. Ambrose supposed that, so long as time endured, the souls would await their reward or chastisement in an intermediate place until the day of resurrection. This opinion was shared by St. Augustine. These two learned theologians undoubtedly supposed that heaven and hell would receive man in his entirety after the resurrection of the body, and that the necessity of appearing at the last judgment could be with difficulty reconciled with the notion of eternal life, seeing that it reintroduced the consideration of time which is of necessity excluded. But this opinion did not prevail, and the traditional

[1] Heb. ix. 27.

Roman Catholic dogma still asserts that the souls of the righteous are transported to heaven as soon as they have been sufficiently cleansed by a sojourn in purgatory, whereas the souls of the wicked are straightway hurled into hell, immediately after their individual judgment. Purgatory alone is destined to pass away at the end of time.

Apart from these discussions of a metaphysical character, upon which we need not insist, the dogma of the last judgment raises two other questions affecting the material world, which we may with profit approach from a scientific point of view. We shall at present merely draw attention to them, reserving their discussion for Part II. The first is concerned with the premonitory signs announcing the judgment, which would seem to show that it will mark the end, not only of the world we inhabit, but of the entire universe. The Gospel says that the stars will fall upon the earth, but we know now that our globe is not the centre of the universe; it is but an insignificant planet as compared with the sun and stars, which cannot fall upon it; and the catastrophe which might destroy it would probably be a mere secondary phenomenon, destined to pass unperceived by the rest of the universe, except perhaps by the immediately neighbouring planets. Under these conditions there is no reason to imagine that the destruction of the earth would involve that of the universe. Later, when speaking of astronomical discoveries, we shall see what solution is at present proposed by apologists.

Then comes the recall to life of each mortal inscribed in the great books of life, which shall be laid open upon the day of judgment, as is foretold in the visions of the Apocalypse:

"And I saw the dead, great and small, standing in the presence of the throne, and the books were opened; . . . and the dead were judged by those things which were written in the books."

The Church has taken up this idea in the moving verses of the "Dies Iræ," the mighty rhythm of which is resonant with the majesty of the scene they depict.

Moreover, the Book of Wisdom tells us that the ear of the jealous God hears all things, and that the wicked man will be examined even in his thoughts.

In Part II of this work we shall seek to show in what measure science confirms this doctrine, according to which the divine contemplation embraces at once all times and all places, and how science permits us to conceive this grandiose restoration of the past at the last judgment.

To the first Christians heaven and hell appeared as very definite localities, somewhat material indeed; but this conception, perpetuated down to the present in traditional dogma, had had to undergo alterations under the influence of modern scientific ideas. This we shall show later. Without founding one's objections upon science, it might have been advanced against the physical character of the punishments of hell that they would not affect the immaterial soul, and that they could not in consequence be of effect during the existence of the universe, but only after the resurrection of the body, which is to coincide with the end of time. This reflection also occurred to the Christians of the first few centuries, before traditional dogma had become crystallized; we find Origen even teaching that the fire of hell is merely a symbol of the torments that rend the conscience of the damned.

St. Gregory of Nazianza and St. Augustine likewise contest the existence of a material fire, of physical torments, and of the consequent gnashing of teeth. It must be recollected, however, that as the new religion progressed these objections were gradually forgotten; in the Middle Ages the imagination of poets and preachers enlarged freely upon the theme of the infinite variety of the material agonies of hell, and they were thus able to show that the punishments could be graduated to suit various degrees of culpability.

It does not appear that people were then struck as we are now by the infinite severity implied in the notion of punishment carried on unremittently throughout eternity; they saw only the inevitable application

of the laws of God's justice. For every offence committed against Him constitutes in itself an infinite sin, and the law consequently requires infinite expiation. The goodness of God may have suspended the punishment during earthly life; it is unable to deliver the guilty altogether.

In the "Divine Comedy," for example, Dante, epitomizing the ideas of his day, affirms the necessity of eternal punishment in order to prevent the inevitable relapse of the sinner.

> "Tanto giu cadde che tutti argomenti
> Alla salute sua eran gia corti,
> Fuor che mostrargli le perdute genti."

It may, however, be observed that certain among the early theologians taught that damnation is not of necessity everlasting; as St. Augustine, though bent upon refuting the opinion, allows that it found numerous partisans among his contemporaries at the beginning of the fifth century.

As a complete contrast, heaven involves an eternal semi-material bliss, in so far as it affects the physical body. St. Thomas informs us, indeed, that in the state of beatitude the body, now become immortal, is composed of a luminous and subtle matter, freed from the gross necessities of life, incapable of suffering, but sensible on the other hand to all desirable pleasures. As to the soul, it has its own peculiar joy in the full possession of truth, in the understanding beyond error which will satisfy all its desires, and, above all, in the contemplation of the divine perfections, which constitutes the supreme happiness inclusive of all others. This is, in fine, ideal happiness such as cannot be conceived during the present life. For, as says St. Paul, the eye cannot see it, the ear cannot hear it, and the heart of man cannot understand it. It is unhappily too true that the human imagination, so ingenious in the contrivance of pain and suffering, cannot picture to itself real happiness. Hence the apologists avow

[1] Purgat., Canto xxx., stanza 46.

themselves unable to describe celestial felicity; and even those mystic saints who during life caught ecstatic glimpses of heaven declare that the tongue of man avails not to describe inexpressible felicity. Years and centuries slip by like the fleeting moment, and yet the soul is never weary, never even feels a touch of that inevitable satiety which always accompanies terrestrial happiness, the vanity whereof it henceforth comprehends.

This feeling has been strikingly expressed in the legend of Frater Alfin, the holy monk of Olmutz, who was always troubled by the notion of satiety in celestial happiness. Having fallen one day asleep beneath a tree in the forest, he was snatched in dream to heaven, and was able to gaze upon its incomparable splendour. On reawakening, the remembrance of his ecstasy, the duration of which had to him appeared only a few moments, cured him of all anxieties. But he felt extremely astonished when he found that he had become a complete stranger in his own country, even in his monastery, for the rapture of a moment had in reality lasted several centuries. Then alone was he permitted to know that our temporal impressions are as nothing when compared with eternity.

If contemplation of the divine perfections constitutes the common bliss of the elect, it must not be forgotten that it is not vouchsafed to all in like measure, for it is to be proportioned according to merit, so that each man may be rewarded according to his works. Christ tells us indeed that there are several dwellings in the house of the Father, and upholders of the theory of unlimited progress toward perfection think themselves justified in hence concluding that the elect even in heaven continue to acquire fresh merits, carrying them forward in that divine contemplation which is the source of supreme happiness. Be it added that traditional dogma does not favour such an interpretation, and does not admit the possibility of the discarnate soul modifying of itself the condition assigned to it after death, whatever that may be. The souls in heaven can, to be sure, plead on behalf of living believers who supplicate them so to do in prayer; this privilege even belongs to souls in

purgatory, for St. Theresa tells us that she often had recourse to their intercession, knowing that she would thereby obtain much grace. It does not appear that these souls, so powerful in the cause of others, can act upon their own behalf, at least not according to the most general interpretation of traditional dogma.

The Gospel is continually contrasting heaven with hell, the abode of the righteous with the abode of the wicked, and in expounding this dread alternative it makes no express mention of an intermediate place suitable for the transient detention of such righteous souls as leave the life on earth without being completely purged. It is nevertheless possible to adduce certain passages wherein Christ foresees the possibility of obtaining remission of sins perhaps even after death, seeing that He expressly declares that in the world to come, as well as in this, forgiveness will be refused to the blasphemer,[1] which would certainly imply that for the righteous man incompletely purified there may be a preliminary expiation before his entrance into the dwelling of the blessed.

St. John, taking up the saying of Christ, delivers himself as follows: "He that knoweth his brother to sin a sin which is not to death, let him ask, and life shall be given to him who sinneth not to death. There is a sin unto death: for that I say not that any man ask." [2]

The idea of this transitory state leads to that of a corresponding intermediate place of sojourn. We see, therefore, that St. Peter, when speaking of the resurrection of Christ, tells us that the Saviour passed through hell without suffering; [3] and this shows that it was no place reserved exclusively for the damned. Besides, we know that the early Christians were perplexed as to the fate reserved for those who had been righteous according to the Old Law and had died before the coming of Christ, and, thus being unable to share in His merits, were excluded from heaven, albeit they deserved to be exempted from the pains of eternal punishment.

[1] Matt. xii. 32. [2] 1 John v. 16. [3] Acts ii. 24.

The Church was thus led to admit that they inhabited a region apart, wherein they underwent no other suffering than deprivation of the sight of God; even this suffering was purely transient and would eventually cease, owing to the retrospective effects of the redemption.

Christ, upon the day of His resurrection, had drawn after Him such righteous souls as were then in limbo, and for those who had not yet deserved that grace recourse might be had, even after death, to baptism, which brings about the remission of sins. This explains the baptism of the dead as practised by the early Church.

The notion of purgatory gradually arose out of the necessity of imagining some halting-place in which the souls still incompletely purged should undergo the temporary penalties of sin, until such time as they should be deemed worthy to enter heaven. This doctrine is laid down in strict terms by the Council of Trent: "If any man shall say that by virtue of justification the guilt of trespass and eternal punishment are so far remitted to the penitent that he no longer has any punishment to undergo, either in this world or in purgatory, before entering the Kingdom of Heaven, let him be anathema."

Purgatory, thus introduced into traditional dogma, has happily softened all that was excessive in the absolute contrast between heaven and hell, and it has at the same time created that communion of souls beyond the grave which contributes such strength to the Catholic Church. Surviving believers know that the affectionate memory which they preserve toward those whom they loved, the prayers which they offer up for them, and the merits which they acquire in their name, are not lost, but contribute to their succour and hasten the blessed time of their admission into paradise. On the other hand, the souls thus comforted can also come to the help of believers yet upon earth, by suggesting to them inspirations and thoughts which lead them into the path of righteousness.

Thus purgatory appears as a necessary element in the co-ordination of the divine plan, and furnishes all

believers with the communion and support requisite to them in order to earn eternal happiness. It is a harmonious union of charity, prayers, and sacrifices, in which the Church triumphant calls to her the Church militant, and the latter comforts and purifies the suffering Church.

The dogma of purgatory, which now seems to us so necessary, was nevertheless long neglected. Christians in ages past viewed it as quite an exceptional solution without justifiable foundation, whereas we now look upon it as the best testimony to divine equity. Unhappily it served as pretext for the traffic in indulgences, which gave rise to such innumerable abuses, and this was undoubtedly the principal reason which led Protestant reformers to renounce a dogma which they did not find categorically laid down in the Gospel. They are therefore forced to represent the soul immediately after death as confronted with the dreadful alternative of an eternity of bliss or of misery, without thinking that thereby they condemned the vast majority of mankind to the pains of endless damnation. Few indeed but have allowed themselves to be distracted by worldly interests, few make sufficient effort to win eternal happiness. Their souls upon arriving before the Sovereign Judge are of necessity cast into hell. Such a deduction appears to us nowadays as inordinately cruel, for the penalty inflicted seems out of all proportion with the sin committed. It may be said to be particularly odious when combined also with the dogma of predestination, for it condemns to everlasting misfortune from birth beings which neither asked to live nor are capable of altering in any way the sentence passed upon them by a cruel Creator.

To be sure, so rigorous a conception of predestination is not admitted by all Protestant Churches, the majority of which seek at present to mitigate the terrible antithesis of heaven and hell. Despite their efforts, they do not succeed in finding a satisfactory substitute for purgatory, and, as an eminent clergyman has said, if Protestantism to-day appears incapable of gaining converts, and if its preachings remain in some degree sterile, it is due

in no small part to the absence of purgatory from its doctrine ; whereas that notion has furnished Catholicism with the plasticity requisite for adapting itself to the successive conceptions of divine justice arrived at by man. It is this dogma which permits the mitigation of the too implacable notion of the ancient hell with all its train of everlasting and useless torments, the only object of which was to testify to the power of the Avenging Deity. To this is now added a temporary hell, which seems at once to reconcile the requirements of justice with those of divine mercy, without doing violence to traditionary dogma.

Protestantism is so well aware of this difficulty that a new sect recently formed advocates *conditional immortality*, a most original intermediate solution, the result of which is to obviate the dilemma which it regards as fatal to Protestant activity.

The success with which this doctrine has been greeted among the Reformed Churches would seem to show that it fulfils a real want of the religious feelings of our day. Conditional immortality has brought a new point of view into the discussion of the question of survival, itself as old as mankind, and is therefore particularly interesting. It is principally based upon arguments of a theological order rather than upon scientific considerations, and we therefore think that we are justfied in examining it here in connection with Christian dogma, although it is contrary to traditional doctrine.

CHAPTER XIII.

CONDITIONAL IMMORTALITY IN THE PROTESTANT CHURCHES.

Dr. Edward White's "Conditional Immortality, or Life in Christ." Immortality not natural to Man, but bestowed on the Righteous. This Theory strengthened by the Darwinian Theory, and by Drummond's "Natural Law in the Spiritual World." The Same Line of Argument in Olliff's "Le Problème de l'Immortalité." Immortality for all Mankind implies the Same for Animals and Plants. Pre-existence from all Eternity a Necessary Postulate for Universal Immortality. The Immortality of the Righteous due to the Merits of Christ. The Survival of the Righteous in the Spiritual World compared to the Survival of the Fittest in the Natural World. St. Paul's References to the Fate of the Wicked suggest Destruction, and not Eternal Suffering. Universal Immortality a Dogma of the Church as early as the Fourth Century. Christ having suffered for All, All may attain Immortality.

THIS is a relatively recent theory, having been for the first time proposed by Dr. Edward White in a book entitled "Conditional Immortality, or Life in Christ," published about 1846. The learned author endeavours to show that the soul in its essential nature is not necessarily immortal, but is only susceptible of becoming so. This bold affirmation he seeks to support by the teaching of the Gospel itself. To this end he quotes several passages declaring that the wicked shall be destroyed for ever, or contrasting the death which awaits them with the life eternal reserved for the righteous. He thereupon proceeds to maintain that the words "life" and "death," so frequently occurring in the New Testament, are to be taken in their literal sense, and he entirely rejects the metaphorical meaning given to them by traditional dogma. His conclusion is that

immortality does not appear in the Gospel as a necessary prerogative of the soul, but only as a gift of grace which Christ the Redeemer has come to grant to those who believe in Him and desire to participate in His grace.

To the traditional doctrine which bestows immortality upon all men, and which Dr. E. White thence designates *universalism*, he opposes his limited conception, *conditionalism*, which views all men destined in principle to die, but reserves eternal life for the righteous, who thus become the sole survivors in the struggle for existence. A theory so divergent from orthodox belief could not fail to rouse opposition, and Dr. White's book was condemned from its first appearance by all Protestant Churches, although it rested almost exclusively on the authority of the Bible. However, as the new idea spread, it gradually gained the adhesion of many of the clergy, and was widely taken up at the time when the Darwinian theories first appeared, opinion transferring to man's future life the conceptions which it was already beginning to adopt with regard to the present life of animals. The idea was championed by Henry Drummond, Professor of Science in the Free Church College in Glasgow, in a work entitled " Natural Law in the Spiritual World " (1883), which caused widespread sensation throughout English-speaking countries, and in which the question of survival is discussed with the keenest interest. Over a hundred thousand copies were sold.

The conditionalist theory thus forced itself upon the public attention and was discussed by men of every way of thinking—religious apologists, scientists, and philosophers. A whole library might be collected from books on the subject. Owing to this amount of controversy the doctrine became so well known as to exact investigation by orthodox schools. M. Sabatier affirms that it daily wins adherents amongst Protestant clergymen and theologians, and is now allowed a recognized place in the history of Protestant dogma.

Conditionalism starts, as we have said, from the idea that the human soul is not necessarily immortal, and it therefore must surprise the reader to find its really

religious upholders endeavouring to pull down all the traditional arguments of philosophers and apologists in support of immortality of whatever kind. This is the line followed by M. Petavel Olliff in his interesting survey of the doctrine. His book is entitled "Le Problème de l'Immortalité." [1] He examined the notion of immortality from an independent scientific point of view, and concludes, as does Dr. E. White, that it is impossible to admit the principle of the immortality of the human soul without conferring the same privilege upon all living creatures. For animals are linked with man by imperceptible gradations, and some are capable of personal feelings and even of reasoning, which is not given to all men in the same degree. So soon as we take up this line of argument there is no stopping, and we are bound to recognize the right even of plants to immortality. The Darwinian theory shows us how the different animal species have developed continuously through the survival of the fittest, until they have finally culminated in man. Are we not bound to admit, writes M. Petavel Olliff, that this law equally applies to the invisible world, and that among the children of men only the most fitted will be called upon to participate in the life of those spiritual beings which exist in a higher sphere than that of man, and that only the most worthy will take their place in a new world in the midst of this superior race and share in its everlasting evolution? From the metaphysical standpoint, continues M. Petavel Olliff, it is alleged that the soul is a purely spiritual substance, that it is hence indivisible, indissoluble, and imperishable. He is of opinion, however (together with Kant), that this is not a logical conclusion; for, he says, if the indissoluble spirit cannot perish by decomposition, it can none the less perish by a gradual enfeeblement resulting from the waste of vital power. In order to vindicate immortality it must be admitted that the soul, being of divine essence, is also eternal, as indeed does Plato, who considered pre-existence as inseparable from immortality. If, on the other hand, it is thought that the soul was created, it is at once

[1] Paris, Fischbacher, 1891.

recognized that it had a beginning and consequently may have an end, and therefore is destined to perish unless the existence is perpetuated by an express act of volition on the part of the Creator. If, again, recourse be had to the ontological proof based on the fact of man's possessing the notion of immortality, which notion must consequently have objective reality, M. Petavel Olliff again answers, with Kant, that this consideration may very well prove the existence of immortality in the case of any particular being, but not necessarily the personal immortality of the being possessing this simple notion.

M. Petavel Olliff retains only the theological argument based on the rational idea of a conformity between the nature of a being and the aim assigned to its existence. This argument is, however, at bottom, merely the voicing of that idea of an inevitable justice which every man feels in his conscience. To this, on the other hand, he urges the objection that if in reality present injustice calls for compensation in a future life, that compensation does not necessarily imply absolute immortality, for a temporary survival would be sufficient to satisfy the idea of justice.

Arguing from such premises, the conditionalist school opines that the soul of man has no necessary right to immortality, but acquires that privilege through the operation of the infinite merits of Christ, Who is come to transform our nature in the persons of the most worthy among us, who, by triumphing over the material passions of worldly life, have deserved to be freed from death and allowed to enter the world of pure spirits.

The sinner who rejects the divine grace is a wretched being who destroys his own soul or allows it to die of disease through his failure to make the necessary effort to partake of the immortality offered to him. He is doomed to disappear even as those useless organisms which in the struggle for life fail to adapt themselves to new surroundings. His soul will doubtless survive a sufficient time after death to undergo its punishment. But if it does nothing to improve itself or cure the disease which undermines it, it will inevitably succumb at the

second death and will lapse into nothingness. So the punishment inflicted is indeed eternal, but only in its effect—in the destruction which it involves, and not in the immortality of the conscience undergoing it. The conditionalists assert that this was the doctrine of the early Church; indeed, passages can be found in support of it in the Epistles of the Apostles and in the first Fathers of the Church.

As regards St. Paul in particular, the conditionalists are unanimous in declaring their doctrine to express better than any other the real meaning of the great Apostle. In many passages where St. Paul touches upon the fate of the wicked, says M. Babut (he instances twenty-five such passages), he uses terms which certainly suggest destruction. Once or twice he speaks of suffering and tribulation, but he adds nothing about their being without end.

It might nevertheless be objected that eternal punishment is explicitly affirmed in 2 Thess. i. 9: "They shall suffer the pains of eternal perdition from the face of the Lord, and from the glory of his power." The conditionalists, however, reject this translation, to substitute the following, as being in their opinion a more correct rendering: "Who shall be punished with everlasting *destruction* from the presence of the Lord and from the glory of his power."

Whatever may or may not have been the opinion held by the first Christians, it is certain the conditionalist theory did not prevail in the early Church; and already in the fourth century, under the combined influence of ancient Grecian philosophy and the teaching of St. Augustine, religious dogma had become distinctly universalist, even if it had not been so from the beginning, and it has since remained the same without any modification of principle.

It must be recognized also that the conditionalist doctrine is, above all, theological in its conception, and is addressed only to Christian Churches. It wears, moreover, an appearance of exclusivism rendering it almost inadmissible by non-believers; one of its upholders, Dodwell, went so far as to maintain that

the ceremony of baptism performed by a Protestant priest in an episcopal church constituted a necessary condition of immortality. But this is a narrow view, obviously unjust and rejected nowadays by most authoritative adherents of the doctrine, who endeavour, on the contrary, to broaden a conception which is in itself too narrow, by showing that the privilege of immortality can be bestowed upon all the righteous, even though not Christian, seeing that Christ lived and suffered for the whole of mankind. Nevertheless one cannot shut one's eyes to the fact that one of the chief reasons why conditionalism is favourably viewed in Protestant circles is that it permits the eternity of the punishment of hell to be put on one side, without recurrence to the Romanist idea of purgatory, regarding it as a doctrine prepared to meet certain circumstances.

On the other hand, this solution by the theory of limited survival and gradual death presents an extreme pliancy which permits it to be easily adapted to all needs, and at the same time to justify the most theological interpretation.

CHAPTER XIV.

SPIRITISM AND THEOSOPHY.

The Astral Body the Same as the Egyptian *T'et* and the Elysian *Shades*. Its Existence forgotten under Scholastic Teaching. Spiritistic Theory of the Fates of Discarnate Souls. Diabolical Possession. Power exercised by Discarnate Spirits through the Astral Body of the Medium. Table-turning, as a Means of Communication, inferior to Hypnotic Trance. Lack of Authenticity in Spirit Communications. Theory that the Incarnation of Man is punitive. Character of the Astral Body determined by the Life led in the Physical Body. Need of Repeated Reincarnations. The Five Invisible Bodies distinguished by Theosophists, in Addition to the Physical Body. Resemblance of this Doctrine to the Doctrines of Egyptians, Hindus, and Chaldeans. Functions and Composition of the Etheric Body. Of the Kamic or Astral Body. Rise of the Soul when freed from the Astral Body. Development of the Buddhistic Body. Reincarnation demanded by the Law of Karma. Evolution after Reincarnation. Majority of Mankind blind to Karma. Inflexibility of this Law. Development continuous from Mineral Molecules to the Highest Living Beings. Development of the Invisible Bodies parallel to that of the Faculties. Essential Difference between Theosophy and Spiritism. Theosophical Theory of the Means of acquiring Knowledge of the World beyond.

In order to complete our survey of ancient doctrines regarding survival, we now intend to examine two systems directly connected therewith, although in their present form they are of quite recent origin. Both of them revert to the notion of an astral body, that is, that fluid which the soul employs as an intermediary in acting upon the living physical body, and which escapes together with the soul to serve it as an envelope in the life beyond the grave. This is clearly the theory already encountered in the ancient Egyptian doctrine which distinguished in man a fluidic part, the t'et,

the envelope of the spiritual soul, of the ego proper, and the organ of its various faculties. The existence of this envelope is admitted, by implication at all events, in all ancient religions when they speak of the shades of the dead wandering in the Elysian fields, or of attenuated phantoms impalpable and scarcely visible to the eye, which manifest themselves to the occasional terror of the living. During the Middle Ages this doctrine was somewhat forgotten. Scholasticism contrasted, without any possible kind of intermediary, the two elements constituting the human being, namely, the spiritual soul, imperceptible to the senses, and the material body, which alone was visible and tangible. To-day the old doctrine reappears, this time backed by a philosophy founded upon the notion of survival, and reproducing in its principal features, but in more modern garb, the teaching of antiquity.

According to the spiritistic theory, the discarnate soul, on passing into the world beyond the grave, draws with it the astral body, or perispirit, which it possessed in earthly life ; it therefore suffers no radical change of its nature owing to the mere fact of dying, but simply maintains the same stage of development which it reached on earth, which determined the condition of the astral envelope ; thus it is that the soul finds in itself the reward or punishment of its worldly acts. If it has practised justice, if it has busied itself with elevated thoughts raised above mere material preoccupations, it enjoys in consequence a lighter and subtler perispirit, thanks to which it can rise far above the earth and reach the highest sphere set apart for righteous souls ; can attain perhaps the region of those pure spirits which are no longer subject to the law of reincarnation.

As for the guilty soul, it is chained to an almost material perispirit, which keeps it in the lower regions close to earth, where are to be met with only the least developed souls together with those of the wicked. These unhappy souls still retain the memory and physical needs of earthly life, and they are always anxious to become reincarnated in order to find once more those material pleasures the craving for which

haunts them. Being deprived of these, they seek to give themselves at least the illusion thereof, and appear to the living as often as they find the possibility of so doing. Generally this occurs under harmful or dangerous conditions, for they are governed by the thoughts of hatred and jealousy amassed in the course of continual torment. It is then that they become noxious beings, or what the Church calls demons.

In their eagerness for reincarnation they sometimes succeed in capturing a living body momentarily vacated by its habitant soul, and it is thus that they bring about the phenomenon of "diabolical possession," which truly corresponds to a reality in the actual sense given to it by the ancients.

As a general rule discarnate spirits can manifest themselves to us by acting upon the partially free perispirit of a living person; and if they succeed in governing this as they wish, they are able to induce in the neighbourhood of the medium acting as their intermediary certain definite physical effects devoid of any apparent cause. These often take the form of wall-tappings, the creaking of furniture, especially tables, the moving of objects out of reach, and the fall of stones.

Besides these effects of a more or less crude description others may be observed partaking of a more definite intellectual character and denoting the invisible presence of a conscious agent. These are spirit communications proper. In the majority of cases they are transmitted merely by shocks given to a table upon which the action of the medium is operating. As a rule, however, the medium is assisted by collaborators, who unite with him to form what is termed technically a *chain*, and they thus by means of their own fluid supply the additional force required.

The table rises, bends to one side, regains the horizontal, and returns an intelligent answer by means of jerks, which it formulates into letters and words, according to a conventional alphabet.

It acts, indeed, as would a conscious being, and in the slowness, rapidity, or abruptness of its general conduct reproduces the attitude which that being would assume under similar circumstances. It gives the

impression of being the interpreter of some unseen interlocutor, capable of taking part in a discussion with personal feeling, and even of replying to a mental question, thus showing that it has power to read thought.

Table-turning constitutes only a very slow means of communication and is more or less crude in kind; the action of discarnate spirits can be exerted in much more rapid ways when appropriate mediums are forthcoming. They can then obtain direct command over any particular organ of the medium, substituting their will for his. In this case the medium falls into a hypnotic sleep, losing consciousness of his own personality; he then awakens in a state of trance, that is to say, his physical body has become the temporary organ of some occult personality which has taken the place of his own. In this condition he acts precisely as would this other being who thinks with his brain, sees with his eyes, hears with his ears, speaks with his mouth, and writes with his hands.

The invisible interlocutor thus makes verbal and written communications entirely different from those which the medium would make in his normal state. Even to the minutest details, in the tone of his voice and the irregularities of his writing, these communications give evidence of a distinct personality, often recognized by those present as belonging to some dead person with whom they may have had intercourse during his terrestrial existence.

Spiritist gatherings thus receive many communications which are particularly precious in their opinion; for in them they recognize the last advice of those whom they knew and loved upon earth, and they consider this to be evidence of their constant aid. Moreover, they imagine that they are in this manner vouchsafed a glimpse of the world beyond and possess of its existence the explicit, tangible, irrefutable proof for which man has yearned so long.

It is clear that these communications would be of inestimable value were their authenticity well established. But it must, alas! be admitted, as we shall again remark when dealing with the matter in a scientific

light, that they lack the convincing force which we should like to attribute to them. If, as far as facts are concerned, they are often founded upon exact details which sufficiently guarantee them in the view of their advocates, they are far from possessing the same value for others. Moreover, different spiritistic schools are far from professing a uniform doctrine with regard to the life beyond.

The most generally accepted theory is that man was originally created as a pure spirit, but in a kind of spiritual infancy, from which he has gradually emerged, owing to a progressive evolution, the result of his own nature tending to approach ever more closely the infinite perfection of the Creator. This evolution may be carried out in the angelic state entirely, if the spirit, possessing free-will, knows how to conform to the divine law and repress all tendency toward evil. In the contrary case, if, for instance, it allows itself to be seduced by the glamour of material life, it will be condemned to become incarnate in a human body, and hence to carry on its development in the midst of the temptations and difficulties inherent in the terrestrial world.

After death the discarnate soul, entering the world beyond, takes with it the more or less material or subtile perispirit which it has formed in the course of mortal life ; and since it must atone for sins committed, it first passes through a suffering period, fixed according to the nature of the perispirit. If it so deserves, it issues thence completely purged and recovers its place among the pure spirits, there to pursue its gradual ascent toward infinite perfection. If, on the contrary, it has proved unable to throw off its semi-material envelope by freeing itself from the base desires whereof it is the symbol and outcome, it is sentenced to reincarnation, and returns to earth to undergo fresh trial, lasting perhaps until the consummation of time.

Man's sojourn upon earth thus constitutes the manifestation of that original sin which he committed in his spiritual existence, and for which he atones here below. A poet has well expressed the spiritist doctrine :

" L'homme est un dieu tombé, qui se souvient des cieux.'

He is aware that he is undergoing a purgatory upon earth, and that he must mend his ways if he would return to the heavenly world of pure spirits, for otherwise he is perhaps exposed to an endless sequence of trials in the present life and in the world to come.

Theosophy in its present form is a species of mystical philosophy, treating of all the problems of higher metaphysics and seeking to find the solution of them in its own peculiar conception of the invisible world, of which it regards the material world to be a mere crude and imperfect manifestation. It thus embodies much of the teaching of ancient religions, especially the Hindu religion. All this it has welded into a homogeneous body of doctrine, which is, however, beyond the reach of experimental control. It is not for us here to give a complete account of theosophical doctrine; we shall merely summarize that part which concerns the destiny of the human soul, and this part we may regard as being in some respects the culmination of ancient doctrines.

Just as theosophy regards the material world as constituting merely an insignificant portion of the whole of creation, so it declares the human being not to be limited to the physical body, which is all that we can perceive, but also to embrace a fluid-like and invisible part, the intermediary organ through which the conscious *ego* acts. This fluid-like part is in itself exceedingly complex, and is composed of a series of distinct bodies, one encased within another; each of these corresponds to some particular faculty of the soul, and the consecutive elements become more and more immaterial in proportion as they are in closer proximity to the conscious ego.

Theosophy thus distinguishes the following bodies:

1. *The etheric body*, which ensures the form and life of the physical body and occurs in all living beings, animal or vegetable.

2. *The kamic* or *astral body*, which is the organ of the passions and desires; it is found in the higher animals.

3. The *mental body*, especially characterizing man; it is the organ of the intellect in its various manifestations.

4. The *causal body*, which conceives abstract ideas, receives the unconscious residue of past existences, out of which is to spring the germ of future existences.

5. Finally, the *Buddhistic body*, the organ of unselfish love and feelings of charity and self-sacrifice, which is found, but in a still embryonic state, in persons of devotedness, such as saints and heroes.

Clearly this is a revival in another form of those distinctions admitted by the ancient Egyptians and by the Hindus, which we noticed in earlier chapters.

The *ego*, or immaterial manifestation of the deity, is the *ka* of the Egyptians, the *atma* of the Hindus—just as the mental body is the *ab*; the astral body enveloping it the *t'et*; while the etheric body or vitality of the physical body is the *hati*. As for the causal body, it is the *karma* of the Hindus, the *feroher*, or rather the *kerdar*, of the Chaldeans.

First in order of materiality comes the etheric body, indissolubly united to the physical body, the form and existence of which it ensures. It governs the manifold workings of organic life, with which it is born and with which it expires, and is composed of semi-material ether-like particles, which may be considered as being infinitely minute even when compared with the atoms conceived by physicists.

Next comes the kamic body, that of the passions and desires, usually termed the astral body. It is essentially the organ of feeling; through it the living being becomes conscious of pleasure, pain, passion, desire, and regret; it is composed of elements even more subtile than those of the etheric body—infinitely minute as compared with ether-atoms. The nature of these elements is not, however, absolutely uniform in all human beings, but varies largely according to individuals, as indeed does physiological sensitiveness.

More or less crude and heavy as are these elements when allied to material desires, they become on the other hand light and subtile in the case of men who can govern their passions and curb their desires; and we thus see that every one of our actions reacts in the course of life upon the nature of the astral body, just as it does upon the health of the physical body.

The astral body temporarily survives death, and continues to exist in the world beyond on taking leave of the definite state in which the present life has left it, and it thus determines the purgatorial trial awaiting the discarnate soul at the threshold of the life beyond the grave.

The soul then suffers owing to the unappeased desires inherent in the astral body, from which it cannot separate itself, rather than through the memory of its past errors; for as a rule it does not at once recover the conscious recollection of its earthly existence, but assumes a fresh consciousness as befits the altered conditions and surroundings. At all events, the astral body is destined, like the physical body, to die; and severing itself in its turn from the discarnate soul, it leaves it surrounded henceforth by the mental body, compounded of fluid-like elements even more subtile still than were those of the astral body.

The soul thus lightened quits joyfully this astral world of suffering and rises to a new plane, which is the world of pure ideas. It is then permitted to direct contemplation of ideas, which, according to Plato, have a real and objective existence; and thus it tastes all the intellectual bliss of which it is capable according to the state of its faculties and the nature of its mental body more or less refined. This is the temporary heaven named by the Hindus *devachan*. At the same time the soul recovers the complete view of its past, preserved in images which it can understand and read; it thus becomes conscious of the successive existences through which it has passed, and seeing the connection between the acts of its different lives, appreciates their happy and unhappy incidents in a true light, understands the trials it has undergone and the joys it has felt, for it recognizes the working of the inevitable justice of the Hindu karma, which leaves no act unpunished or unrewarded, nay, not even the thoughts of which we are the authors.

If in the course of its bygone lives the soul has succeeded in paying off what is due to the karma, and has at the same time multiplied good works, nourished feelings of charitableness, and thus developed the

Buddhistic body composed of yet more subtile elements than those of the mental body—if it has done all this, the soul may be permitted to quit this body too, as it has already quitted the astral body, and penetrate into yet another world still closer to the divinity ; and henceforth it may pursue its eternal evolution without having again to submit to the harsh law of incarnation.

In the contrary case, which is that of the majority of mankind, even of the best, the law of the karma is not satisfied ; sins still remain to be expiated, and trials to be undergone, and the soul is condemned to begin a new existence in a material body. When the time arrives for its reincarnation, it gradually redescends through the various semi-material planes which it had traversed on its ascension, and assumes in each an appropriate body.

By the development of the germs preserved in its causal body, the soul gains first of all a mental body, then an astral body, both of which it finds composed of elements more or less subtile or crude, according to the state of development which it has attained, and according to the existence which awaits it in order to satisfy the karma. So soon as its fluid-like bodies are thus reconstituted, it unites with the etheric body supplied partly by the parents along with the physical germ at the moment of conception, and enters into matter. In the course of this successive reassumption of bodies more or less subtile or crude, the immaterial soul becomes gradually oblivious of its anterior lives; the memory thereof becomes more and more deeply imbedded in the unconscious being in proportion as the causal body becomes less capable of radiating freely, for it is henceforth brought to a standstill by the impassable barrier of crude elements on which it cannot have any effect.

Thus a new entity has come into being, which, though it enters into life with the temperament, character, and even destiny resulting from its past existences, is conscious of nothing save its present state. Its psychological development, from birth—nay, even from conception—onwards, follows the course of evolution necessary in all human beings ; its etheric body united with the embryo determines its form and growth; the astral

body appears at birth with the consciousness of pain; the mental body, half-dormant during infancy, gradually awakens as the personality becomes more marked and the moral and intellectual faculties make themselves manifest.

The being thus constituted passes through the joys and sorrows of life, and is called upon to struggle against its wicked inclinations, to do good and to combat evil—to ensure, in fine, its own moral development by obedience to law. But oftener in its ignorance it errs, and in the midst of life's joys and sorrows sees nothing in the unhoped-for successes which it wins or in the unexpected reverses it encounters; sees nothing in the unremitting efforts which it must make of its own initiative but the unconscious play of unjust chance favouring some and crushing others; while in reality it is the supreme unbiassed law that is at work around it, always active despite the obscuring veil, always equitable and beneficent in principle, in spite of its apparent injustice.

This state of ignorance with regard to the law is still no doubt prevalent with the majority of mankind, yet men cannot fail at times to divine its existence, when it is granted them to feel those apparently inexplicable impressions which suddenly shed a new light for them upon the connection existing unsuspected between certain facts. They then catch a glimpse of the reason of certain antipathies, discover the justification of certain forebodings, and thus win an insight into that directing power which the causal body was momentarily able to call up from the depths of the unconscious self.

Whatever may be the case, veiled though it remains from mankind, the law of the karma reveals itself to us in the more or less lofty teachings formulated by our own conscience, according to the stage of development which it has reached. Without doubt that teaching is not uniform for all mankind; an act which is held praiseworthy among savage tribes may become a sin or even a crime among civilized peoples. But these differences are but one sign among many of the inequality of progress among human races, and the general law none the less holds true in all its strictness. Man is

destined always to progress, and he can do so only by expiation and charity, joyfully accepting the trials which are the consequence of his past errors, and at the same time endeavouring always to be of service to his fellow-beings and even sacrificing himself for them. He may be confident of being rewarded later, if not in this life in the life to come, or rather in a subsequent life ; for the law can forget none of his acts, and must award him his recompense as well as his chastisement. We know, even as Christ has said, that the Eternal Father will remember even the draught of water given in His name.

According to theosophy, this necessity for continuous development, which is the essence of human existence, is nothing but a particular application of the general law regulating the universe as a whole, from the lowliest mineral molecule to the highest of living beings. All things appear to us in a continued state of " becoming," to be perpetually on the ascent toward a more subtile state, admitting, as the case may be, of more varied properties, of a less restricted activity, of a better defined individuality, and at the same time, with the higher beings, of a greater degree of responsibility in proportion as they arrive at a less imperfect comprehension of that infinite perfection to which they desire to approximate.

These different bodies conceived by theosophy are found in each of us in a state of development corresponding to that of the faculties of which they are the expression. The causal body, for instance, may even be wanting in certain races of men which possess only a weakly developed mental body, whilst, on the other hand, in animals endowed with a certain degree of intelligence the mental body is already apparent in an embryonic state ; and this is equally the case as regards the astral body in certain kinds of vegetables, and as regards the etheric body, even in lifeless nature, as exemplified by certain crystalline formations.

This conception of fluid-like bodies in a perpetual state of " becoming," when applied to all the elements of the universe, shows us how may be practically realized the theoretical idea of an indefinite development governing all worlds, which we see confirmed before

our very eyes in the unceasing evolution of living organisms as well as in the history of mankind.

The profound difference existing between theosophy and spiritism will at once be seen, although both doctrines are based upon the same principles, namely, survival, and the continuous action of invisible beings upon the material world. In the view of spiritism this life is purely expiatory, while to theosophy it is one stage in the advance toward the infinite, and a necessary condition without which the law of progress would fail of application.

According to spiritism man is, as we saw above, "a fallen god who remembers"; according to theosophy, on the contrary, man is the future god who tries to climb to heaven. It is at the same time clear how the idea of changes of consciousness, which necessarily take place in the widely different conditions and successive lives passed through by the human soul, leads theosophy to interpret *post-mortem* manifestations in quite a different manner from that of spiritism.

Theosophy considers it useless to seek for such manifestations, because for the most part such communications could not emanate from the souls we wish to summon, inasmuch as they have partially, or at least temporarily, lost all consciousness of their past life; and moreover, a return to the terrestrial surroundings which they have quitted could not be otherwise than harmful to them in their new state.

The one means of acquiring during this life anything like exact knowledge concerning the world beyond is to render oneself capable of consciously penetrating it in the astral body, and of preserving upon the physical plane the impressions thus received. To succeed in this, one must study under the direction of the proficient, subject oneself to the moral and physical training inculcated by the mystic schools, and then alone can one arrive at a personal conviction. For, according to theosophy the things of the invisible world are not capable of any other demonstration. This, however, is an assertion which we shall discuss in the Second Part of this work, in the light of positive science, and we shall see what conclusions can be deduced from its latest teachings.

PART TWO.

FUTURE LIFE IN THE LIGHT OF MODERN SCIENCE.

CHAPTER I.

DEDUCTIONS FROM THE FUNDAMENTAL SCIENCES.

The Future Life generally pictured by the Imagination. Science now expected by its Votaries to solve Problems outside the Domain of Matter. It has already modified our Views of the Nature of the Soul. Why Theories of a Future Life are subject to Experimental Investigation. The Material Existence of Heaven and Hell. Our Right to inquire into the Nature of Psychic Force. General Principles revealed by Astronomy, the Physical Sciences, Mechanics. The Function of Ether in the Physical Forces and in Life. The Personality of Every Living Organism not affected by Changes of its Molecules. Probable Connection of the Life Force with the Vibrations of Ether. The Inability of Science to acquaint us with Absolute Truth. The Assumption of the Presence of Ether necessary in the Study of Matter.

In the preceding chapters we have recalled the manifold conceptions of a future life formed by mankind in the course of past ages. Notwithstanding the apparent diversity, we have invariably found asserted the one fundamental principle of survival. It always reappears among the most widely dissimilar races, under the most divergent climes. We find it among primitive tribes, and we find it where civilization has attained its furthest progress. In their inability to unravel the eternal riddle, those who represent the civilizations of the past were doubtless forced to fall back upon all the resources

of the imagination in order to depict to themselves that new life which they were as unable to picture clearly as we ourselves are to-day. They consequently fell into the most painful contradictions. But as far as concerns their belief that man is inhabited by an immaterial element independent of the physical body, and therefore capable of surviving it, we encounter a unanimous agreement, which it was the object of the foregoing survey to illustrate.

Albeit the principle bequeathed to us by the accumulated wisdom of antiquity undeniably acquires a certain prestige from its undisputed unanimity, it is none the less essential that it should be submitted to the test of modern science and discussed in the light of the new conception with which science furnishes us, to the end that the problem may receive the utmost possible elucidation.

Science has profoundly modified the material world, which it daily renders more and more subservient to the needs of mankind. The wonderful discoveries which it has already achieved cause us to expect even greater marvels in the future. It has laid bare to our dazzled eyes some of nature's most jealously guarded secrets ; and it has thus altered in many essential points the notions which the human race has formed concerning its place in the universe. It has even attempted indirectly to attack questions which, strictly considered, are removed from its domain, and its enthusiastic votaries look to it to-day for a precise philosophy which shall replace their lost beliefs. That same abounding faith which our fathers reposed in the judgments of eminent theologians is nowadays accorded to the authoritative luminaries of science, when they attempt to solve questions beyond the sphere of material observation. Science, in a word, is the one authority from which we are willing to accept a solution of the great problems that have vexed mankind ever since the dawn of intellect, and it is possible that it may some day be able to furnish an incontrovertible explanation. That day is still, however, so exceedingly remote that we are unable even to forecast it. Meanwhile the eternal

enigma presses for an answer, so that we must be satisfied with surmises, and the more or less probable conjectures which science is at present in a position to afford us.

It should, however, be noted that among these problems, that which involves the nature of the soul of man is certainly one with which science can nowadays deal most effectively; and it has indeed already worked a profound change in the general views upon the subject, so that we are of opinion that the attempt which we are making in this book cannot be condemned unheard, on the pretext that science is unfitted to handle questions of this kind. To such an objection we may reply, in the first place, that theories concerning a future life necessarily involve certain assertions which affect the perceptible world of sense, and that they are consequently in great part, if not entirely, subject to experimental investigation. We are therefore justified in arming ourselves with the teachings of science in order to fix upon the most likely interpretation which those theories are capable of bearing. This is the case, for instance, in so far as are concerned the material existence of heaven and hell; the likelihood of a resurrection of the body, or of the last judgment; and in a general way the legitimacy of our notions respecting the place of the world in the universe, and the circumstances which will mark its final destruction.

All these are certainly questions which it would nowadays be impossible to answer without the utmost attention to scientific considerations. Even theologians no longer refuse to discuss them from this point of view, and they will be awarded a prominent place in the present work. But even beyond those questions of fact which depend immediately upon scientific observation, we have considered it allowable to bring in other theoretical considerations, likewise based upon the positive sciences, whenever they appeared of a nature to throw light upon the complex problem of the survival of the soul.

It is for this reason that we have given especial prominence to some of the most striking among the

fundamental laws, such as the Law of the Indestructibility of Matter and Energy. We have at the same time collected such theoretical notions as are at present held by the most respected scientists concerning the composition of matter, and the manner in which forces of every description may be supposed to act. We are bound to consider the human soul as presenting, upon the same grounds as we suppose the unconscious forces to present, a veritable manifestation of energy; and we are thus perfectly authorized to inquire into modern scientific theories with a view to discovering such as are applicable to the case of psychical force.

To this investigation Part II. of this work is devoted. We shall examine the natural sciences in succession, with the object of bringing together the fundamental laws, and the most important general principles to which they give rise. To these we shall again refer in our conclusions, when we make our final attempt to reconcile the two great bodies of doctrine to which we have successively appealed—that of ancient philosophy, and that of modern science.

Astronomy reveals to us the immensity of the worlds, and in so doing reminds us of the insignificant place which our earth occupies in the universe. The physical sciences teach us the fundamental law of indestructibility, which we shall so often have occasion to recall, and they lead us at the same time to conceive a mysterious ether, in which to-day, even as did the wise men of old, they seek the fountain-head of all energy. When combined with chemistry, the physical sciences unfold for us the complexity of elemental atoms, and here again point out the all-important part played by ether, according to modern theory, as the generator of matter.

Rational mechanics in its turn steps in to show how it is quite possible to comprehend the history of the universe if we assimilate it, by a perfectly legitimate extension, to the material systems whose transformations have been already studied. Mechanics is thus able to determine the trend of the world's history; it foresees that the universe must necessarily reach an end; above

all, it teaches us how it is possible for the mysterious ether to register the past and reveal the future through its never-ending vibrations, which are capable of infinite multiplication without being modified or destroyed.

The invisible ether thus becomes the sole constituent element of physical forces, and perhaps, too, of matter itself. When we subsequently enter upon the domain of life, it is from the ether again that we shall demand an explanation of the new forces brought into play. We shall try to show, in agreement with physiologists of great credit, that life is something more than the purely chemical reactions which are its outward sign. It is the controlling element which governs those reactions in order to make them combine for the realization of the type which it has in view. In every organism which it animates it maintains a constant exchange of molecules, which uninterruptedly replace the exhausted molecules that are being continually thrown off. The living organism, nevertheless, preserves its own permanent personality, which we are unable to connect with any of the material forces which are present. We are hence bound to admit that we are confronted with a new force, independent of the others and of a nature more subtile than theirs.

The force of life, then, under this condition can find no equivalent in material forces, and is unable to play any part in the reciprocal transformations which they undergo, so that we cannot assign to it any correlative when we see it appear at birth or vanish at death. Still we are by no means justified in concluding that these manifestations have not their necessary echo in the vibrations of ether, knowing as we do with what strictness the law of indestructibility takes charge of the preservation of the minutest material atom, also of the least developed forms of energy, whilst the ether registers with incorruptible fidelity the most insignificant facts.

In the earliest stage of their development all living germs are identical, and it is impossible to distinguish the humble protozoan from the highest organism in the scale of beings, or from the man destined to become a mighty genius. This radical difference, which matter

cannot explain, is none the less real, but it is of too subtile a character for our means of observation, because it is concerned with the ether; and here again we have to fall back upon the hypothetical fluid in which we have already been forced to seek the explanation of the genesis of matter and of the mode in which physical energy acts. We now add living energy under all the forms which it is capable of assuming—first purely unconscious, as is the case with those organisms which reproduce the type of the species without any individuality; then accompanied, little by little, by a more and more marked personality, which is clearly distinguishable among the higher animals.

In proportion as it rises in the organic scale this living energy gives rise successively to the faculties of sensitiveness and intelligence, which find their most perfect development in the human species. In each of these faculties the ancients saw a distinct soul. We endeavour in our turn to find these souls in the waves of a more subtile ether; and we seek at the same time to discover whether it might not be possible for them, in certain exceptional cases, to manifest themselves externally through physical effects, furnishing thus undeniable proof of their existence.

The last chapters are given up to a discussion of the numerous inquiries which are being prosecuted in this direction, researches on the insufficiently explored border-land of science, which have yielded many extraordinary results. We thus complete the survey of the scientific data to which we shall be able to appeal in drawing our conclusions.

Certainly we have no expectation of being able to put forward here anything like a final explanation of this eternal energy which, under different forms, is always being renewed. We are only too well aware that the intelligence of man cannot take in the complexity of a problem the elements of which elude him, belonging as they do to a domain other than that of matter. Science, we remember, is not in a position to acquaint us with absolute truth; for science can handle truth only in a concrete form perceptible to our senses. Even

within these restricted limits science is unable to supply us with one affirmation concerning the external world which should be free from all possibility of doubt. The laws which have been established in various branches of knowledge invariably presuppose certain fundamental hypotheses which it is impossible to prove. Geometry itself, which may be looked upon as being pre-eminently the science of the absolute, is not free from this inherent defect. We are not in a position, for instance, to demonstrate whether the postulate laid down by Euclid concerning the non-convergence of parallel straight lines really does or does not agree with actual fact, seeing that certain geometricians by setting it aside have succeeded in establishing one, and even more than one, theory, perfectly co-ordinated and capable of an interpretation consistent at a pinch with facts, provided always that we accept a series of laboured hypotheses, each more improbable than another, the possibility of which, however, we are not entitled to deny absolutely.

We must not forget that science cannot vouchsafe us that absolute truth which we desire, yet we cannot therefore reject science as a useless instrument, seeing that it is none the less the one torch able to guide us through the eternal darkness in which we grope. Doubtless it is impotent to clear up the problems of pure metaphysics; but in points bordering upon its sphere it may be consulted with utility, and can occasionally supply us with decisive considerations. Thus, in the observation to which we referred above, concerning the meaning which rational mechanics assigns to the history of the universe, it would seem that we obtain a powerful argument in favour of the idea of the creation, as opposed to the eternity, of matter.

Moreover, we shall see that this same observation leads us to refer the end of the universe to a period when the ether shall have given all its available energy in the form of heat—energy, that is, reduced to its lowest state. This appears to us to furnish a not less decisive argument in favour of the idea of the survival of the highest forms of ethereal energy, that is, of the manifestations of conscious life. Otherwise, the evolution

of the universe would become entirely meaningless, if it were merely destined to result in the reduction to a uniform temperature of all its component elements, and if it were not to lead up to the manifestation of conscious life upon a higher plane than that of matter.

To take a fresh point of view, we may add that all the most recent scientific theories, as will be seen in subsequent chapters, agree in showing that the mere consideration of matter will not furnish an explanation in the slightest degree satisfactory of a single perceptible fact, for we are always compelled to have recourse to the supposition of some more subtile element, some hypothetical fluid, which we suspect to be present although we have never seen it. Here again scientific observation makes a most important contribution to the discussion of the comparative merits of the two great rival doctrines, spiritualism and materialism, between which philosophers are divided.

These various indications will suffice to show the interest of the arguments which we can adduce in the name of science in discussions which are apparently beyond its sphere, and we can at once see the value which such considerations may acquire in our study of the problems of the nature of the human soul; for we have here to deal with a question of fact, in which positive observation must count for something, although it is yet unable to offer a solution or furnish that decisive proof which some claim to possess already, but which is unhappily not yet strong enough to vanquish all objections.

CHAPTER II.

ASTRONOMY. THE EARTH'S PLACE IN THE UNIVERSE.

The Rôle of Astronomy in correcting False Views of Cosmogony. The Erroneous Conceptions of the Old Theologians not necessarily those of the Bible. Opposite Views as to the Relative Ages of the Earth and the Sun. The Probability of the Existence of Beings like Man in the Other Worlds. Possibility of exchanging Ideas with the Inhabitants of Venus and Mars. How the Theory of the Plurality of Worlds affects the Incarnation and the Redemption. Light thrown by Geology on the Length of the Habitable Period of Each World. The Agreement between Science and Religion to be effected by the Pope.

ASTRONOMY, which raises man's mind above the petty preoccupations of daily life and sets him face to face with that supreme order governing all things in the universe, is pre-eminently the religious science ; and the conceptions to which it has attained have at all times exercised profound influence upon contemporary religious ideas. In a scientific examination of the problem of survival, we should therefore begin with astronomy, which, if it does not furnish us with a complete solution, will at all events supply us, in points trenching upon its domain, with the necessary means of controlling the theories proposed. As regards the Christian dogma in particular, it immediately reveals the error tainting the traditional interpretation, and we have to discover in what way that interpretation must be modified in order not to clash with recent astronomical theories.

As we have already shown, the old interpretation asserted that the end of the earth inevitably involved the end of the entire universe, and it also viewed heaven and hell as very definite localities according to the ancient belief.

Hell was a place of physical torments, an ocean of incandescent matter buried in the depths of the earth. On the other hand, heaven was also a definite locality situated above the clouds, above the firmament, that vast solid vault set with stars which forms the throne of the Deity. There the sun shines upon the elect with purest light, and, as the poet has said,

> "At their feet it is poised,
> Like a brilliant lamp."

This material conception remained unshaken so long as the earth was regarded as the centre of the universe, and man was imagined to be the sole possible example of intelligent corporeal beings. But time came when the heavenly vault was opened; new worlds appeared to our terrified gaze; and earth was deposed from its long unquestioned primacy; the queen of the universe became a petty satellite of the sun, lost in the throng of its sister planets. The sun itself was but a puny star flung carelessly among a million others in the same nebula and whirled like them by some superior power toward an unknown goal.

But this vast nebula itself, this host of worlds which already staggers the imagination, and in which our earth is less than an atom, this nebula is not all; it is but a mere element in a wider universe whose unsounded depths enfold other systems as limitless and grand. In endless space, wherein the worlds are sown like chance grains of sand, vainly do you seek for those abodes of punishment and reward destined for those dead to earthly life, and which were supposed to constitute the final terminus of creation. Vanished they would seem, for ever, that material hell and purgatory which lay hidden in the bowels of earth; vanished the empyrean which was builded on the vault of the firmament; and in the mind of many theologians and many believers a new interpretation of dogma has succeeded the old; heaven and hell are no longer localized places, but rather states of the immaterial soul, happy or unhappy.

God, Who is spirit, fills all space without being local-

ized to any determinate spot ; hence likewise the souls can be admitted everywhere to the contemplation of His infinite perfections, which constitute supreme beatitude, and heaven no longer needs to be physically realized. Let us add that if astronomy leads us to reject a material heaven and hell, whose place we do not see in the physical world, it throws no obstacle in the way of their being real places, situated in a more subtile plane of matter, such as the ether, where they are consequently withdrawn from our means of observation. Such a conception forces itself upon us if we admit that the soul carries its fluid-like envelope with it, and consequently always occupies a determinate place. Heaven and hell may retain their objective existence, although vanishing from the physical plane with which we are now acquainted.

The new conceptions which we are forming to-day under the influence of astronomical discoveries offer us a most striking example of the way in which scientific observation must effect the interpretation of traditional dogma. Religious apologists no longer hesitate to reject from tradition the erroneous notion concerning the real situation of the earth in the universe which it had received as a legacy from the ignorance of the early Christians. To them also the earth is no longer the centre of the universe ; the sun did not stop in its course upon the prayer of an Israelitish chieftain, in order that he might continue the battle which was to bring him victory. Likewise, before the appearance of man, the earth already possessed a history, the duration of which passes our imagination, and which is not reducible to the Biblical six days ; the cataclysm which precedes the last judgment and is to destroy our planet will certainly not shake the universe to its foundations, neither will it cause the stars to fall ; for the worlds other than ours it will be an insignificant event, passing even unperceived by most of them.

Entering thus upon the path of scientific interpretation, religious apologists have not had much difficulty in showing that the erroneous conceptions which they reject are not necessarily those of the sacred books

themselves, which, on the contrary, contain much that better adapts itself to our actual knowledge.

They remark, for instance, that the order of the six days of Creation, as given in the Bible, corresponds pretty well in its principal lines with the great geological periods now recognized by science. They insist, moreover, upon the creation of light, placed by Genesis on the second day, before that of the sun, which appears only in the ensuing epoch, as if the inspired author had been aware already of the existence of that subtile ether which is diffused throughout the universe and is the sole vehicle of light. They also add that the idea of the creation of the sun following upon that of the earth, which was denied by the cosmogony of Laplace, seems, on the contrary, to find confirmation to-day in the theories advanced by M. Faye to explain what has not before been explained—namely, the retrograde movement of certain planets of our solar system. It is known that the planets nearer to the sun, including Saturn, possess direct movement, whereas the exterior planets have a retrograde movement. In order to explain this anomaly M. Faye would have it that the interior planets were formed by the agglomeration of the rings detached from the cosmic vortices before the sun itself was formed, whereas the exterior planets were thrown off from the central star after its own formation.

They also cite various passages of Scripture wherein the earth is represented as isolated in space ; for instance, the remarkable words in Job xxvi. 7 : " He stretcheth out the north over the empty space, and hangeth the earth upon nothing." And again in Isaiah xl. 22 : " That stretcheth out the heavens as nothing, and spreadeth them out as a tent to dwell in." They add that although the astronomical knowledge bequeathed to us by antiquity became gradually lost after the rise of Christianity, nevertheless it was not quite unknown to the theologians of the early Church ; and it is interesting to encounter in their works the persistent assertion that the earth is isolated in space. St. Basil, who lived in the fourth century, tells us, for instance, in his

Homilies, that the earth rests only on itself, that it has been brought by its own weight to the position it occupies, and can neither rise nor fall.[1]

St. Jerome, upholding the resurrection of the body, says: "Think you that it is more difficult to the Lord to give back life than to hang the vast bulk of the earth in the void and to keep it in equilibrium with the waters which surround it?"[2] St. Augustine also remarks that when the sun disappears from our sight it lights other parts of the earth.[3] It is true that from a religious consideration he rejects the notion that the antipodes can be inhabited, for he does not think it possible for man to cross the ocean in order to reach them; he concludes that the inhabitants of such inaccessible regions cannot belong to the human species, since they cannot be descendants of Adam, the common progenitor of all mankind.

It must therefore be admitted that the inspired authors of the Bible possessed upon astronomical matters more exact knowledge than we should have at first supposed; and it is possible to trace a faint echo thereof in the Fathers of the Church, who were thus often able to keep clear of the errors of their day. At the same time it cannot be denied that the generally accepted interpretation of traditional dogma is tainted with those errors and now requires modifying, regard being had to the true position of our globe in the universe.

It must not be forgotten that we are led at the same time to modify our notions regarding its inhabitant, man, whom we can no longer view as the only possible corporeal creature endowed with reason.

We have become broader in our views, and claim kinship with those other distant worlds governed by the same mechanical laws as our own, and we can no longer conceive that our insignificant planet should possess the monopoly of intelligent life; the other worlds, often more important than this, must also have reasoning inhabitants with destinies akin to ours. Like us, they must have been created in the image of the only God,

[1] Homilies i. and iv. [2] Epist. ad Pammachium.
[3] "De Genesi ad litteram," lib. i. ch. ix.

and it is a legitimate question to ask whether any theory of a future life can afford to ignore their existence.

We know, moreover, that the most elementary organisms appear capable of supporting the tremendous cold of interplanetary spaces without dying, and since we are not aware of any spontaneous generation, we may perhaps suppose that life was brought to the earth by aeroliths laden with micro-organisms coming from other worlds, and therein we should find new and particularly striking evidence of the community of origin of all living creatures throughout the universe.

Let it not be said that this is a gratuitous supposition, which it is idle to discuss, for the notion of the plurality of inhabited worlds, which in the present day exercises a seductive influence over every imagination, is borne in upon us with all the characteristics of moral evidence, and we observe indeed that the most distinguished men of science, desirous of arguing upon teleological grounds, do not hesitate, perhaps somewhat prematurely, to make this the basis of all their speculations.

Foremost among them all stands out the philosopher Jean Reynaud, who revives the Gaulish doctrine of the incarnations of the circle of gwynfid, and who views the present life as the punishment of faults committed in the course of past existences. He supposes these successive lives as taking place in one planetary world after another, and the other celestial worlds are doubtless vales of tears even as is ours. He, at any rate, views them as so many purgatories, through which the disembodied soul must pass before reaching the cycle of everlasting felicity.

A little later, about 1872, Louis Figuier expounded an analogous conception in his work "The Morrow of Death" ("Le Lendemain de la Mort"); however, he limited the theatre of the soul's evolution to our solar system, and located heaven in the sun itself. This broad notion of immortality ranging through the heavenly bodies brings striking testimony to bear on that communion which must necessarily link together all rational beings, though separated by the infinite distance of world from world; and some of them may

be more advanced than ourselves in the eternal process of evolution, but doubtless, like ourselves, children of sorrow who have hoped, suffered, and loved. This idea influenced Victor Hugo, who expressed it so grandly in these noble verses. He too, he says, had come

> A croire qu'à la mort, continuant sa route,
> L'âme, se souvenant de son humanité,
> Envolée à jamais sous la céleste voûte,
> A franchir l'infini passait l'éternité,
> Et que chacun ferait ce voyage des âmes,
> Pourvu qu'il ait souffert, pourvu qu'il ait pleuré
> Tous, hormi les méchants dont les esprits infâmes
> Sont comme un livre déchiré.
> Ceux-là, Saturne, un globe horrible et solitaire,
> Les prendra pour un temps où Dieu voudra punir,
> Châtiés à la fois par le ciel et la terre,
> Par l'aspiration et par le souvenir !

This same idea also inspires the great work of the distinguished astronomer Camille Flammarion, who has made the doctrine so popular.

Many who have received no special scientific training are interested nowadays in our brothers peopling the nearest planets, Venus and Mars, and there is an important endowment awaiting the scientist who shall first succeed in putting us in intellectual communication with them. If we could exchange ideas with our putative neighbours in those planets we might acquire knowledge of a decisive kind for the problems which torment mankind. Unhappily this is a dream which seems hardly realizable in our present state of knowledge; and even if wireless telegraphy does furnish us with a hint of the method to be pursued, we cannot yet even foresee the means of arriving at the desired solution.

Nevertheless, although it may never be vouchsafed us to communicate with any world outside our own, we can say without great rashness that we shall in the near future be able to make a decisive step by an indirect means, so soon as we shall have been able to obtain pictures of the neighbouring planets detailed enough to

supply us with material proof of the intelligent activity of their inhabitants.

As this forms an essential point in our study, we think it will be interesting here to outline a method which we proposed in 1896 in our former little work on future life, and which appears to be capable of leading to the desired solution.

The problem evidently consists in discovering, in the picture of the planet, indications of man's handiwork, groups of dwellings, great works of art, such as roads, highways, or canals. Unhappily, these essential details would cover only the most insignificant area, and are quite invisible in the views which we have heretofore succeeded in obtaining. It would therefore apparently be requisite to construct instruments of observation of an immensely larger kind. But this method, although it has to be applied only in a limited manner, has already shown that the views thus obtained are entirely lacking in clearness, owing to deficiency of light. But we are unable to augment the quantity of light received from the star under observation; hence the question will remain insoluble, unless we are able to discover a means of intensifying our picture by an artificial process, with due regard to the relative intensity with which the different points of the picture are illuminated, so as to avoid modifying its aspect.

We believe that this difficulty may possibly be overcome as a result of the researches at present being carried on with the object of obtaining the transmission of images by electricity; that is to say, with the object of constructing a telephotic apparatus which would prove an admirable complement of the telephone.

The results already in sight in this direction encourage one to hope that its realization will not long be postponed, and we shall soon doubtless hear of images received in the despatching station being transformed into an electric current to be identically reproduced at the receiving station.

If for a moment you are willing in your imagination to forestall such an invention, you will no doubt recognize that the same principle might be applied to the

enlargement of images of the planets. It would suffice to transform the faint images, with which we have at present to be satisfied, into an electric current, amplify that current, and thus obtain an intensified image which would permit of the detailed observation necessary to supply us with the requisite information.

Whatever may be the value of such a method, the practical application of which evidently depends upon an invention not yet realized, we consider it as certain that before long astronomical observations will supply us with proof so irrefragable as to force conviction, although it may remain impossible to exchange any communications with the planetary worlds. When this prophecy shall have come to pass it will become necessary to widen the actual interpretation of the dogma which hitherto has recognized terrestrial mankind only, much to the scandal of its adversaries.

Wishing even now to combat such an objection, the most enlightened of apologists do not hesitate to admit the over-narrowness of that interpretation. They recognize that that dogma can no longer contradict *a priori* the plurality of inhabited worlds, seeing that it unprotestingly accepts the dethronement, as it were, of the world, and even endeavours to prove, as we remarked, that the true position of the earth was hinted at in the sacred books.

To return once more to the investigation of Scripture. The apologists cite various passages which may, if taken at the very letter, fit in with the doctrine of the plurality of worlds, without overstraining.

When in the Gospel Christ likened Himself to the good shepherd, who, in the wish to save the lost sheep, does not hesitate to leave the ninety-nine others upon the mountain while He goes in search of the stray, He had especially in view, say the apologists, mankind on earth, and consequently He was possibly alluding to other star-dwelling races of man for whom there was no need for the Word to become incarnate, because probably they were not fallen like us. Perhaps He still embraced them in His infinite contemplation when He told us that there were many dwellings in the house of

the Father ; and perhaps that was also the meaning of St. Paul when he taught us that it had pleased God the Father to restore not only that which is upon earth, but also that which is in heaven. Perhaps he wished to imply that the benefits of the Redemption accomplished here below may spread far beyond the narrow bounds of the almost imperceptible world to which we are confined.

Finally, they add that various Fathers of the Church, from Origen downward—St. Augustine, for instance—must have been aware of the hypothesis of the plurality of worlds without its having troubled their faith, for they did not even recoil from the weird idea of endowing the stars with a conscious soul, the probable destiny of which at the last judgment they took into discussion.

Whatever may be the interest of these curious pieces of evidence, it is undeniable that the theory of the plurality of inhabited worlds gives rise at first to a very grave difficulty, to which the Fathers of the Church did not pay very great heed, but which none the less cannot be passed over in silence, because it involves the interpretation of two fundamental dogmas, namely, the Incarnation and the Redemption.

The Incarnation of Christ, taking place in a world so insignificant as our own, doubtless proves that the Father, in His infinite goodness, forgets not even the least of His creatures ; at the same time we cannot understand the reason which led to the choice of Earth as the scene of the divine tragedy, unless, indeed, that tragedy has been repeated in like manner in other worlds, sinful like this of ours ; if, on the other hand, as children of Adam, we are incapable of leading a corporeal existence elsewhere than on earth, we do not see how the blessing of the Redemption can be extended so as to include those distant humanities which must occupy as great a place in the divine love as do we.

This is certainly a very serious objection, which has not yet been completely dispelled, and which explains the hesitation of theologians to handle the question of the plurality of worlds. Yet with a little reflection it will be recognized that this is no entirely new objection,

for all it does is to aggravate a difficulty which already presents itself almost as clearly, so soon as one confines oneself to the consideration of terrestrial mankind; and hence a single explanation will doubtless apply in both cases.

The Redemption was consummated upon earth at a definite point in space and at a determinate moment in time; it nevertheless applies to thousands upon thousands who were already dead, who were then living, or who were destined to exist in the future, all of them entirely ignorant of the death of Christ. By a miracle beyond our understanding the Redemption was able to affect mankind in its entirety, born and to be born: is it not therefore possible to suppose, by a legitimate extension, that it included all mankind fallen through sin, however situated in time or space?

While thus accepting the plurality of inhabited worlds, in principle at least, latter-day apologists maintain that it is, however, merely a restricted and, so to speak, exceptional habitability which is in question, involving at any particular moment only a relatively small number of stars, and, in so far as concerns future life they conclude that the idea of a personal reincarnation of man in these planetary worlds has no convincing force from a scientific point of view. They remark indeed, taking their stand upon the scientific laws themselves, that the period during which the stars are able to receive intelligent inhabitants, gifted with so delicate an organization as our own, is certainly exceedingly short, almost, so to speak, insignificant, when compared with their total duration. From the history of the earth we have learned that the geological epochs anterior to the coming of man represent an incomparably longer period than that of mankind's existence; and we are aware, moreover, that from the moment when the gradual cooling process shall have brought about the annihilation of the human species, the earth, become lifeless and inert, may still pursue its eternal cycles through a period infinitely longer still, until such time as some unforeseen catastrophe shall destroy it in its present shape, to build perhaps another new world out of its ruins.

Such is probably the history of all the other planets; and we thus see that the number of worlds simultaneously inhabited is more restricted than might at first have been imagined; consequently, intelligent life may very well be simply transferred from one planet to another and be well represented continuously in time, but only by a very limited number of different humanities.

This consideration, which in some measure minimizes the dogmatical difficulty, cannot at present be rejected upon scientific grounds, for we lack the necessary knowledge; it may thus give support to an interpretation acceptable to believers. It must, however, undergo renewed revision if ever we succeed in winning to anything like precise knowledge concerning the planets, so true is it that scientific discoveries are destined to find an echo in the modification of our religious and moral beliefs.

If the Church possesses the words of eternal life, as was promised by its Divine Founder, it will be able to show that its teaching can always be brought into line with well established scientific truth, as gradually revealed to us by the study of nature; and, when necessary, the infallibility which it ascribes to its visible head will always allow of its fixing beyond discussion the dogmatical interpretation which shall consecrate the compulsory agreement between observed truth as formulated by positive science, and revealed truth as determined by religious faith.

CHAPTER III.

THE PHYSICAL SCIENCES. INDESTRUCTIBILITY OF MATTER AND ENERGY.

The Future Influence of the Physical Sciences in modifying Religious Beliefs. The Law of Indestructibility applicable to Energy as well as to Matter. The Unchangeableness of Molecules of Living Matter. Atoms subject to Disaggregation. The Resurrection Body conceived to be Etheric. Apparitions also Etheric. Interdependence of Heat, Electricity, and Light. Interchange of Energy between the Sun and the Planets.

In ages past the physical sciences did not exert anything like the influence of astronomy upon religious ideas and the conception of a future life. But the case will certainly be otherwise in the future, for the new theories to which those sciences are now leading us concerning the constitution of matter and the mode of action of force are of a nature to modify profoundly the ideas which man has so far held upon those subjects. They will consequently in all likelihood throw fresh light, perhaps of a decisive kind, upon the problem before us. We therefore think it of interest in the two following chapters to summarize from this point of view the general principles arising out of the latest scientific theories.

The most cursory observation of external phenomena reveals matter to us as in itself inert and incapable of finding in itself, apart from outside interference, the principle governing the ceaseless transformation to which it is subject. We cannot make of it the sole constituent element of the universe, and we are led, at least at the first glance, to conceive a dynamic element entirely

different in character, which discloses itself not to our senses, but only as the result of a theoretical induction based on the effects which it produces by supplying matter with the impulsion in which it is lacking.

The universe thus appears to us as the scene upon which two antagonistic and irreducible elements are shown in action : the one is visible and is called matter ; upon it we imagine ourselves to possess exact knowledge. The other is hidden from us, and is force ; we are entirely ignorant as to its nature ; its scientific name is *energy*, in the strict acceptation of the word. This rudimentary notion we shall endeavour to render more precise by comparing the results already achieved in the physical sciences, and by showing the conception which each of those sciences entertains of either factor of this fundamental division.

We shall return later to the question of the constitution of ponderable matter, for we cannot deal with it before having first spoken of the part played by the ether in the manifestations of energy ; but we must insist at the outset upon the paramount importance of the law of the indestructibility of matter, which is at present universally accepted, and, indeed, forms the groundwork upon which all modern sciences are built. It applies, moreover, to energy, as we shall point out later.

We know that all natural bodies, despite their diversity of form and superficial appearance, are reducible to a small number of identical primordial elements, and merely constitute various combinations of these. Owing to the constant application of the law of indestructibility, these elements pass through the various combinations without even losing their characteristic properties, and with the means at our disposal we can see no possibility of creating or destroying the least of their constituent atoms. We may, therefore, regard the universe as being made up of as many distinct groups as there are chemical elements, and each of these groups as being composed of identical atoms, the number of which must have remained rigidly constant since the

beginning of the world. The history of each atom will embrace all time to come as it has embraced all time that is past. The mineral, upon which we look with disdain, was part of the earth at its beginning, has played a part in, or been a witness of, all the world's phases and changes, and will last on until the final destruction. Even so is it with living matter; the carbon or nitrogen molecule, which is being continually made to take a part in one of the thousand unstable organic compounds, passes through them all with its individuality intact in spite of the apparent destruction which overtakes the varying forms of which for the moment it was an integral part.

The law of the permanence of matter, considered as indestructible and uncreatable, is found to apply without exception in our own terrestrial world, and the mechanical considerations by which astronomy is ruled entitle us to apply it to the entire universe, which we are to view as being made up by the assemblage of a constant sum of material elements. These elements are distributed in an invariable manner among the various worlds composing the universe, and among the planets forming the same solar system; for the interchange of matter between one and another is impossible, if we neglect the insignificant accretions due to aeroliths.

The law of the indestructibility of matter as we have just outlined it is the great achievement of chemical science, of which it embodies, so to speak, the whole, but from the standpoint of the physical sciences it must be acknowledged that it calls for certain reservations which somewhat attenuate the absolute rigour hitherto attributed to it.

As we shall see in the next chapter, the material atom is nowadays regarded as a complex aggregate of more or less subtile elements and as having been constituted at a given moment in appropriate surroundings, since when it has undergone all kinds of reactions unchanged; but it is none the less destined to undergo a slow disaggregation, of which we can already see the premonitory symptoms. It will in its turn encounter, but at a distant period which our imagination can with difficulty conceive,

that final destruction from which nothing in the universe can escape.

Whatever may be the importance of this rider, the law of indestructibility none the less remains the fundamental basis of all the accepted principles of chemistry; and as it seems to involve consequences which are of particular interest in our present inquiry, we shall bear it in mind in order to appeal to it later in conjunction with the theories connected with it, which may be deduced from the various sciences of observation capable of throwing light upon the question.

We may remark, however, thus early, that one of the immediate consequences of the law of indestructibility is a considerable modification of the construction which we must set upon the dogma of a resurrection in the flesh. The Christian faith declares, indeed, that the future destiny which is predicted for the human soul is applicable also to the body inhabited by it during terrestrial life. According to the tradition preserved and consecrated in the Apostles' Creed, the material body will be resuscitated at the end of the world, will then rejoin the soul from which it was separated, and will appear with it at the last judgment, sharing thereafter its eternal fate in fixed and indissoluble union.

For a long time this resurrection in the flesh was understood as indicating an actual rehabilitation of the material body; but gradually, as a result of the discovery of the law of indestructibility, we have come to comprehend better the constant interchange of constituent elements going on between all living organisms, and we have consequently had to revise our first rudimentary interpretation. We have come to see that it is impossible to conceive an integral restoration of the body with the same material molecules which composed it during life, for even those molecules are in a constant process of circulation. They only pass through the living organism of which they form part, and at every moment life furnishes it with fresh elements in replacement of the worn-out elements, which are discarded by the operation of the vital functions. The molecules are constantly upon the passage from one

living body to another or to the ambient medium which will return them later; they are thus continually describing a cycle, as they go from man to plant, from plant to animal, and from animal once more to man. Those which at the present instant constitute our body have animated thousands of living organisms before us, as they will animate an infinite number in time to come until the final extinction of life.

Strictly speaking, we do not *possess* the primordial elements of this body of ours, for all that it may appear to be our own particular belonging; we possess only the usufruct, and that upon a very precarious tenure. We are as unable to retain them in ourselves as we are to stay the onward movement of fleeting time. It therefore follows that by a resurrection of the body we can understand no identical reconstruction; the resurrection can therefore affect only the permanent element which maintains the existence of the body, giving it life and form, and not the material atoms, the rôle of which is entirely ephemeral. This permanent element we can discover only in the conception of an etheric vortex, generating from minute to minute the movement of life. This we shall explain in another chapter. That theory supplies us with a scientific interpretation of the dogma of a resurrection in the flesh that is already accepted by many theologians.

Perhaps, as we shall show later, we may suppose this grouping that is the preservative of life to be able to manifest itself in a semi-material form reproducing the aspect of the physical body—a form analogous to those which are revealed to our senses in phantasmal and mediumistic apparitions.

We have seen that matter preserves its characteristic properties in their entirety throughout all the combinations into which it enters, but nowhere do we see that it contains concealed in itself the principles of those endless modifications. Scientific observation goes, on the contrary, to confirm the notion of inertia, which is the basis of all mechanical laws; we must therefore seek in some external cause—either an imponderable

force or an acquired movement—the original impulsion which it cannot give to itself.

This force is that mysterious element in nature which, according to our first imperfect notions, is the unseen agent of phenomena of every kind, a sort of ever-changing Proteus, which is revealed to us by achievements of the most diverse kinds—sometimes by work performed at a distance, when it is known as gravitation, sound, heat, light, or electricity ; sometimes by internal action, which it effects within bodies when it determines their structure, directs their mutual reactions, or causes their successive decompositions and recompositions. And it is exactly this element that we must discuss by considering it in connection with the results obtained by scientific inquiry in our own day.

Let us first of all remark that these manifestations of force, in spite of their superficial diversity, are bound together in strict reciprocal interdependence. Recent discoveries that serve as the basis of the mechanical theory of heat establish this absolute correlation. They show that any caloric, electric, or luminous action corresponds with the absorption of a certain amount of motion, which upon disappearing it will wholly restore ; or again, as M. Berthelot has proved, it finds its equivalent in a certain determinate chemical combination, which will again restore it upon an inverse decomposition. We thus observe that the manifestations of the dynamic element obey a law of indestructibility analogous to that governing matter. Like matter, energy is neither created nor destroyed, but is only transformed. The least phenomenon in which it appears under any form whatever necessarily entails another which may perhaps assume a different mode of energy, but will be its absolute equivalent.

In one respect the indestructibility of energy differs from the indestructibility of matter, namely, in that it is not limited to our terrestrial globe, involving as it does an element which forms a single homogeneous whole, filling space throughout.

We remark, indeed, a continuous interchange of energy between the different worlds. The sun gives

us its light and heat, and by its attractive force maintains the great movements of the atmosphere and the seas; the magnetic disturbances to which it is subject have an immediate echo upon the surface of the earth. Again, the moon, the planets, and even the nearer fixed stars exert a weak but perceptible influence upon our globe. The earth itself is constantly radiating heat through the celestial spaces, some of which perhaps returns to the sun. Briefly, the consideration of the dynamic element and the laws governing it reminds us of the union in which we are held with other distant comrade worlds, and the strict dependence of our earth upon the great star which sweeps us in its train along an unknown way. This notion, which must indeed force itself upon even the most superficial observer, occurred also to primitive man. The ancient Aryans worshipped the sun as a god, and very rightly saw therein the source of all life upon earth. The very name which they employed to designate the brilliance of the sun's light forms the root of the words which in most languages of Aryan descent denote the Deity.

From these various considerations we get a clear idea of the high importance attaching to the law of the indestructibility of energy in the general economy of the universe, and we shall later appeal to it in conjunction with the law of the indestructibility of matter; to the former we shall have to append a proviso analogous to that we have already made with regard to the latter.

External energy acting upon matter is capable of transformation, but can neither be created nor destroyed. No recent discovery has invalidated this fundamental law. Nevertheless, we are at present led to believe that this external energy is not the only energy operative in the universe; for our new conceptions regarding the constitution of the atom show it to be a reservoir of energy beyond imagining, and it is perhaps destined to dissipate this energy as it becomes disaggregated. We shall not, however, insist upon these views, which are perhaps premature and are not yet generally admitted by all scientists. We desired to mention them because they offer a very striking example of the growing import-

ance which attaches in science to the consideration of imponderable elements eluding all observation by the senses.

We may add again that in all manifestations of energy the law of conservation insures the same quantity but not the same quality ; and we are compelled to distinguish certain particularly high forms, such as motion, light, and electricity, which are never transformed integrally. We can obtain none of them without at the same time causing the production of a certain quantity of a low form of energy, such as heat, which absorbs a part of the labour expended and thus represents a certain wastage in transformation. This is an important observation, and we shall recur to it, for from the philosophical point of view it involves general consequences of great interest.

CHAPTER IV.

THE CONCEPTION OF ETHER IN MATTER AND ENERGY.

The Nature of Ether. Indispensable for the Transmission of Energy. Its Vibrations rapid beyond Imagination, and connected with Light, Heat, and Electricity. Its Atoms infinitely Small. The Vibrations of Röntgen Rays. Ether is the Agent of all Manifestations of Energy. Essential to Matter also. The Indivisibility of Atoms purely Theoretical. Electrical Experiments seem to demonstrate their Complexity. The Theory of *Ions*. The Complexity of Atoms confirmed by Röntgen Rays. Perrin's View of the Structure of Atoms. Revolutions of their Constituent Parts. Radio-activity a General Property of Matter. It is the Manifestation of the Internal Energy of the Atom. Dr. Le Bon's Experiments reducing Certain Elements to the Colloid Condition. Isomerism and the Principle of Varying Affinities. The Oscillatory Movement of Atoms. Meta-elements. All Inert Matter supposed to consist of One Ultimate Element. The Return of Matter to Chaos.

THERE is a wondrous medium ensuring the community of worlds and the unity of the universe ; it vibrates with the slightest quiver of life ; it transmits with equal fidelity efforts which pass our imagination either from their infinite greatness or from their infinite smallness, the impulsion which keeps the world revolving in its orbit, and the simple vibrations of heat and light. This medium is the mysterious ether that the ancients knew, created, according to Genesis, before the sun, and now discovered anew by science, although it has never been granted us to perceive it through the senses.

It is upon this hypothetical semi-material fluid, the atoms whereof are infinitely minute when compared with those of tangible matter, that science has been obliged to fall back, although all hope of proving its existence by direct observation must no doubt be aban-

doned. Science does not shrink from ascribing to it properties somewhat contradictory and having no analogy in the material world. It is regarded as an imponderable body, differing, however, from the most rarefied gases in the fact of its being incompressible. At the same time it is supposed to possess the elasticity of the most rigid of all solids, seeing that it transmits with almost infinite rapidity the slightest vibrations which stir any point in its mass.

This invisible and inconceivable fluid becomes, however, a necessary agent in the transmission and transformation of the various modes of energy, and it is only by supposing its existence that science can really succeed in explaining physical phenomena; so true is it that the mere consideration of matter is incapable not only of penetrating the riddle of the world, which will always be beyond us, but of revealing the immediate causes of the most simple phenomena.

We have therefore recognized this invisible fluid to be animated by a motion, the most delicate shades of whose rhythm we can represent although they may attain to a rapidity beyond all imagining. The vibrations indeed which characterize visible light are reckoned by millions of millions per second; and this rapidity, sufficiently staggering in itself, is as nothing by the side of the speeds which we have been able to estimate, in which the millions of vibrations per second have themselves to be reckoned by the billion and the trillion.

We have been able to calculate the rapidity and determine the amplitude of these oscillations, and in such hypothetical movements we henceforth seek the genesis of all phenomena of this order.

The undulatory theory created by Fresnel, the great physicist, to explain the way in which light is propagated, has received completely satisfactory confirmation in some of its most curious and unlooked-for consequences, such as interference, coloured rings, polarization, colour-photography, etc. It has also been applied to heat, and the recent experiments of Herz have proved that it holds good of electricity, as was so brilliantly foreseen by Maxwell.

The study of Herzian waves, which led to the discovery of wireless telegraphy, showed that electricity is transmitted by undulatory vibrations just in the same way as light; and it also led us to modify the theory of Fresnel by the introduction of a new principle certifying the absolute identity of the two phenomena.

Nowadays, indeed, the ether-vibration, which Fresnel looked upon as the source of light, has lost in our eyes the character of motion which he saw in it, and has become, on the contrary, simply the periodical variation of a tension or electric potential which we should cease to regard as real movement. Thus, indirectly, science reverts to the notion of those immaterial fluids by which old-time physicists sought to explain the manifestations of force and its transmission to a distance. Such a conception has indeed been re-adopted by several eminent men of science, such as Mr. G. A. Hirn, who has so largely contributed to the definite establishment of the mechanical theory of heat. In all manifestations of force he saw the action of an independent immaterial element, revealing itself to us by the various modifications which it provokes in matter. Ether, which we now view as the sole vehicle of energy, is not an entirely immaterial fluid, since theory is bound to attribute a certain volume to the subtile atoms which it brings into play. But as a matter of fact, that volume is infinitely small as compared with that of physical atoms, and the corresponding ratio forms a number beyond all imagining.

The diameter of a physical atom may attain about the ten-millionth part of a millimetre, or the millionth part of a micron, that is, 10^{-7} mm., whereas that of the ether-atom is expressed by the fraction 10^{88-} mm.

At all events electricity is now regarded as an ether-vibration, just in the same way as light and heat, and the difference between these various phenomena is due only to the greater or less rapidity of the vibrations. Those producing electrical activity are much the slowest, and attain only a rapidity of from 20,000,000,000 to 30,000,000,000 per second, whereas luminiferous vibrations are a million times as fast. We do not yet know

what vibrations correspond to the zone between these two phenomena, but there is no reason to doubt that they have their own proper existence, and we may perhaps some day succeed in establishing this fact with certainty by revealing a new manifestation of energy which has up to now remained hidden.

Thus, for instance, the cathodic rays lately discovered by Professor Röntgen should be apparently classed among ultra-frequent vibrations, that is to say, beyond the violet rays, which are the most rapid of the luminous zone.

We come thus to see that the ether is really the necessary agent of all known and unknown manifestations of energy, and we understand how one can be transmuted into another by the application of the law of indestructibility. According as these vibrations are more or less slow or rapid, in a scale running from zero to infinity (for it reaches numbers far beyond our imagination), so does the appearance of the phenomena change. First we have electricity, then heat, then light, with all the colours of the spectrum and actinic rays, and far higher up we have cathodic rays.

Nevertheless the continuous rise has by no means reached its limit, nor have the numerous gaps in the list yet been filled. Yet in each of these categories we discover this same unwearying fluid, apart from which there can be no manifestations of energy. To it we now appeal for an explanation of the transmission of actions to a distance; we look to it, as it were, to materialize, in its subtile atoms, the invisible force of gravitation which maintains the planets in their orbits.

It has been successfully shown that the luminous ray is accompanied by the exercise of pressure upon the object illuminated, as is proved by Crookes's radiometer. We shall have occasion to remark that the ether atom can carry along with it electrical tensions which are absolutely enormous, and we thus understand how the integration of the elementary efforts thus transmitted by the countless army of ether atoms might enable us to reconstitute the total effort necessary.

At the same time we must not forget that these atoms

are infinitely subtile, seeing that they give rise to no friction along the path of the planet which they maintain in its orbit. It would really seem that their power is greater in proportion as they are further removed from matter.

Briefly, we may say, in the utmost strictness of the words, that all the phenomena of which we are cognizant are direct or indirect manifestations of the action of the ether upon matter, seeing that all of them involve energy; and this dictum holds true even in the case of what are apparently purely mechanical efforts, as for instance the external movements when the place of material objects is changed, or the internal vibrations in dilations excited by heat.

Not only is ether nowadays regarded as the necessary agent in all manifestations of energy, but, besides this, it is the present tendency of science to discover ether in the constitution of the physical atoms themselves, so that this hypothetical fluid, giving rise to matter as well as force, becomes the essential, and, so to speak, the only element in the universe.

Up to within the last few years, indeed, the physical atom was looked upon as representing the extreme limit which it was possible to conceive in the division of matter. The law of constant proportions testifies to the existence of such a limit, showing as it does that chemical reactions always and only take place in definite proportions of the elements involved, and not in any chance proportions. It was therefore concluded that each of those proportions necessarily contains an immense number of elementary molecules, of which it represents the individual weight so many times repeated.

All the molecules constituting a compound possess identical properties, and each of them is formed by the identical grouping of atoms of the elements of which the compound is the resultant. These considerations show us how the physical sciences are led to the notion of indivisible atoms insusceptible of decomposition. This is, however, a purely theoretical conception, for the atom can never be observed by the senses and cannot

be isolated by mechanical division. We have learned from experience that we cannot by microscopical observation get lower than the one-tenth of a micron, or the ten-thousandth of a millimetre. As for mechanical division, physicists generally admit that the diameter of an atom is at least a thousand times less than anything we can attain ; it would thus not be greater than the ten-thousandth of a micron.

In studying gases, they suppose the molecules to keep each other at a certain distance apart, varying according to heat and pressure ; but under ordinary circumstances they are capable of expanding themselves to probably the hundredth part of a micron, which is a great deal in comparison with the dimensions of the atom.

Albeit mechanical and chemical means have so far been unable to isolate the chemical molecule, much less its constituent atoms, this is not the case with electricity, and the observation of certain electrical phenomena leads us to conceive, nay, to realize, the isolation of fragments of electrical atoms and molecules.

When studying the electrolysis of saline solutions the chemist Arrhenius succeeded in showing that the double decompositions thus produced could be explained only by the hypothesis that the molecules of the dissolved compound were themselves decomposed into their constituent particles, not otherwise susceptible of dissociation.

These particles, which Arrhenius terms *ions*, are charged with quite enormous quantities of electricity which in the compound were neutralized ; but so soon as decomposition is produced, they move about in the solvent, being gradually attracted by the contrary pole and repelled by the like pole.

The tremendous tension of the ions explains our inability to dissociate the molecules by physical means, for we have at our disposal no instrument sufficiently powerful to neutralize the immense quantities of electricity given off by the liberated ion.

On the other hand, we can also understand why the ion, which thus moves about in the conducting medium,

does not behave as would the ordinary molecule of the compound ; for the latter, not possessing the same electrical tension, must of necessity manifest entirely different properties.

The theory of ions is nowadays generally accepted ; for it goes to confirm the primordial hypothesis of the molecular constitution of matter, and furnishes an explanation of certain anomalies upon which we cannot here dwell, but especially the general law discovered by the French physicist Raoult, in virtue of which the temperature at which any solution will freeze depends exclusively upon the number of the molecules dissolved, and not on their nature. Now, this law does not apply in the case of certain solutions which conduct electricity, unless we admit the dissociation of the elementary molecules from the dissolved bodies. The disruption of the molecule, owing to the separation of the ions, does not, however, represent the extreme limit of the division of matter. We can push yet farther down and shatter the atom, whose inaccessible minuteness seemed to protect it from attack, and which we have never succeeded in isolating any more than we have isolated the elementary molecule of compounds.

We look upon it as a complex aggregate built up of infinitely tiny fragments, termed corpuscles, which are as it were atomic ions, for they likewise possess an excessive tension which does not allow of their being freed save by electricity.

The hypothesis of the complexity of the atom has already found confirmation in the study of Röntgen rays, which, as M. J. Perrin has remarked, seems destined to change the very foundations of physical science. These rays emanate from the negative pole or cathode of an electric current passing through a globe in which as complete a vacuum as possible has been established. They may be compared to a shower of projectiles negatively charged, like the cathode, and consequently driven away from it according to the general law by which bodies charged with the same kind of electricity naturally repel one another. The eminent English physicist, J. J. Thomson, has succeeded in calculating the volume

of these hypothetical projectiles, and asserts that they are a thousand times smaller than the atom of hydrogen. We have in fact to deal with fragments of atoms, infinitely small in comparison with the total volume of the atom ; and, what is more interesting, all these corpuscles are apparently mutually identical, whatever the nature of the atom from which they are thrown off. A corpuscle derived from an atom of iron can replace that derived from an atom of aluminium in the constitution of the latter atom, and that without altering its properties.

It must therefore be admitted that we have to do with a real disruption of the atom, from which new bodies are detached which are really intermediaries between perceptible matter and imponderable fluids, as was already explained in 1897 by Dr. G. Le Bon, the ingenious and original experimentalist who succeeded in showing radio-activity to be a general property of all natural bodies. This conception, which was at the first very much contested, is now admitted by the most authoritative among scientists, and M. J. Perrin has made it the basis of an exceedingly interesting molecular theory.

In his view, every atom is to some extent constituted by the union of one or more central masses heavily charged with positive electricity, and these masses keep revolving about them at a certain distance a whole throng of minute negative corpuscles which complete the atom and are, as it were, the planets of these microscopic suns. They gravitate indeed about the central nucleus, describing regular orbits, and this motion is the result of opposed electric forces. The positive tension of the nucleus by itself balances the negative tensions of the planetary corpuscles, thus reaching the enormous value which we already noted in speaking of ions.

It is thus comprehensible how sufficient electric force brought to bear upon an atom may succeed in detaching one of these minute planets, as is the case in the production of cathodic rays. The volume of the corpuscle is, however, so insignificant that the total

weight of the atom is not affected ; and as the positive attraction of the central nucleus persists unimpaired, its reaction upon the remaining corpuscles is reinforced, and it will become increasingly difficult to detach any of them. Our means of action will thus become rapidly exhausted, and yet we shall, so to speak, have robbed the atom of nothing, and it remains to all appearances as undiminishable as ever. As to isolating a positive "sun," that would require means far greater than any at our disposal.

The atom thus appears to us as being an immense whole forming part of the infinitely small. It is complex and unfathomable as the universe itself, and is governed by identical laws ; it, too, is perhaps constituted by the mysterious ether, the molecules of which play in this microcosm the same part as do the planets in the universe ; and we may even suppose that their revolution about the central nucleus gives rise to the vibrations which mark the special rays in the spectrum given by the body of which they form part.

Thus M. J. Perrin was able to determine that, with a rapidity of one thousand kilometres per second, the rate of cathodic rays according to Lénard, the duration of the revolution of a corpuscle describing the circumference of an aluminium atom probably 10^{-7} mm. in diameter would be 10^{-15} of a second ; and curiously enough this is precisely the number which registers the length of vibration of aluminium rays.

As for such corpuscles as escape the attraction of the central nucleus, they exert upon their external surroundings an action which is principally mechanical or electrical.

If they have retained the vast speeds which they possessed inside the atom, they dispose of a considerable quantity of energy, permitting them to pass through certain opaque bodies, as is generally the case with non-luminous rays. Their mode of action is to bombard, as it were, the opposing obstacle, as may be seen when a fluorescent screen is placed in the presence of radium. The screen appears lit up with bright specks, which come and vanish constantly, thus giving indication of

the rain of invisible projectiles, just as the circles formed upon still water often show that rain drops are falling which we should perhaps not otherwise perceive.

If, on the other hand, the corpuscles upon leaving the atom have only retained a moderate speed, they scatter through the ambient medium and act upon the neighbouring molecules, which they disintegrate in their turn under the influence of the electrical tension wherewith they are changed. From these they detach certain fragments, which agglomerate around them and constitute the molecular ions, of which we have spoken, thus exciting new combinations which would not otherwise be realized. A confirmation of the theory has been obtained by exciting the formation of drops of water under appropriate surroundings by the ionization of hydrogen molecules; and this experiment was even made use of in order to enumerate the corpuscles according to the number of drops obtained.

The theory also permits of our conceiving the mode of action of radio-active bodies such as uranium, thorium, radium, etc., which, as is well known, possess the mysterious property of constantly emitting luminous rays without any apparent expenditure of energy; they also give off considerable quantities of heat, as has recently been shown by Messrs. Laborde and Curie.

Radio-activity, of which the initial discovery is due to M. Henri Becquerel, constitutes, moreover, a general property of all matter, as we remarked when discussing Dr. Le Bon's experiments. He ascertained that after exposure to light almost all bodies are capable of emitting rays, simply as a result of absorption, but only to a very restricted and almost imperceptible extent.

We remark, moreover, that the action of X rays provokes a certain ionization of foreign bodies, especially hydrogen, and that ultra-violet rays exert an analogous influence upon metals.

This general conception receives new confirmation in the interesting researches carried out by M. Blondlot upon certain bodies subjected to stress, especially metals. He ascertained that under such conditions these bodies emitted special rays which became evident from the

power to increase the brilliance of phosphorescing calcium sulphide. M. Blondlot even succeeded in measuring the frequency of vibration of these new rays, which he termed N rays, and he was able to show that they occupy a place between the electric and luminous rays, a region as yet unexplored in the general classification, as we have already remarked.

These various rays, whether of light or of heat, may be regarded as true cathodic rays, produced directly by the throwing off of corpuscles but weakly kept by the attraction of the nucleus within the spheres of their respective atoms, and which thus appear to free themselves by a relatively trifling effort.

When thus viewed, radio-activity is no longer the result of the spontaneous, and so much the more mysterious, creation of heat and light, but it is simply the manifestation of the internal energy contained within the atom—the transformation of the mechanical and electrical forces which set in action its constituent elements.

It is therefore permissible to suppose that radio-activity must in the long run appreciably modify the chemical properties of the bodies which are affected by it, either directly or by induction, although the balance is unable to reveal any loss of substance due to the emission of these infinitesimal corpuscles. This is actually what would seem to occur, for M. Curie thinks that radium, which is always found as a chloride in combination with barium, tends to become more and more assimilated to the latter metal, of which it constitutes, as it were, a meta-element of the kind we shall describe later when discussing the formation of elements. Other experimentalists believe radium to become transformed into helium.

The audacious theory of the complexity of the atom has not yet reached its definitive form, if ever it can do so. But we do affirm that it furnishes a so far satisfactory explanation of the mysterious phenomena which have recently revolutionized science ; it has sustained the test of certain experiments, namely, the curious and unlooked-for observation of Zeeman, who succeeded in altering the appearance of spectral rays from a given

luminous source, merely by bringing an electro-magnet to bear upon it. The theory which views the corpuscles in motion as a species of electric flux expects them to deviate under magnetic action, as is the case with cathodic rays; and the change in position of the rays of the spectrum furnishes an experimental confirmation of this deviation.

Let us remark that from experiments made by Dr. G. Le Bon it appears that certain metals can by means of electricity be brought to an extreme state of dissociation, which he calls the colloid condition. They are then probably represented by mere fragments of atoms endowed with properties entirely different from those they nominally possess.

If, for example, a three-hundredth part of a milligramme of platinum be diffused in a litre of distilled water, and an electric current be passed between two rods of the same metal immersed in the bath, a coloured liquid will be obtained holding dissociated particles in suspense; these cannot be separated by filtration. The liquid will act upon certain bodies and will excite chemical reactions merely by its presence, thus presenting a close analogy with organic ferments; and as if further to justify this unexpected comparison, it will be found that this action is immediately paralysed by the same reagents which arrest fermentation. We are consequently led to suppose that these infinitesimal particles are nothing else than the chemical atoms of the metal thus divided.

Let us also add that certain bodies when submitted to minute division, such as would involve a thickness of less than a thousandth of a micron, assume new and unexpected properties. Thus the soap-bubble loses its iridescence a moment before bursting; the infinitely thin pellicle of certain metallic salts loses the electric conductivity which it possesses during its normal thickness.

Outside the phenomena of radio-activity the theory can readily be applied to chemistry also. Here it permits of the explanation of the facts of isomerism.

If the molecules of certain compounds manifest different properties in different cases, this is due to the fact that their internal arrangement has itself undergone a corresponding variation ; the same explanation necessarily applies to the atoms forming isomeric elements, as for instance carbon and nitrogen ; we must therefore view each of those atoms as constituted by a complex grouping of lesser corpuscles capable of distributing themselves or of gravitating about the central nucleus according to different laws, all of which, however, assure the stability of the system.

This indeed is the fundamental conception of stereochemistry, an ingenious theory first imagined about 1874, under slightly divergent forms, by Messrs. Vant'Hoff and Le Bel ; it is to-day universally accepted. It lays down the principle that the atoms of certain elements must of necessity be represented by a figure of three dimensions, the extremities of which determine the directions along which they exercise their affinities.

This is the case for instance with the atom of carbon, constituted, according to Vant'Hoff, by a regular tetrahedron, the principal nucleus of which occupies the centre, while the subordinate corpuscles are concentrated at the four extremities. These groupings thus determine the number and form of the molecular combinations in which an atom can take part, and they constitute what are termed valences.

For a long time the theory asserted that the direction of these valences was necessarily that imposed by the regular tetrahedron, but von Baeyer succeeded in showing that they could undergo a certain deviation, proving that the constituent tetrahedron could therefore assume an irregular form. On the other hand, the principle of varying affinities, which likewise forms one of the bases of the theory, teaches us that these tetrahedra do not necessarily occupy an invariable position in space, but can, on the contrary, move under certain conditions by revolving round an appropriate axis. Again, the atom of nitrogen gives rise to phenomena even more remarkable ; for it is not, like carbon, restricted to an invariable number of valences, but it

possesses at times three and at others five. Moreover, two of the latter are not equivalent to the three others. Finally, they lack stability, especially in trivalent nitrogen ; in this case the groups seem to pass freely from one nitrogen atom to another without the intervention of any external chemical energy (as do the corpuscles of radiant matter), and they may even communicate this singular property to the atoms combined with them in the same molecule.

In order to explain these facts and a large number more that are analogous, stereo-chemistry was forced to renounce the fundamental idea of the absolute fixity of equilibrium at rest, thanks to which it had succeeded in conceiving these fragile edifices of which it regarded bodies as being constituted. Nowadays it admits, according to Werner's hypothesis, that the atoms as well as their constituent particles are animated by a constant oscillatory movement about a middle-centre. Under certain external actions, such as heat, these oscillations increase in amplitude, even permitting the most distant of the corpuscles to pass beyond a certain zone of attraction, outside which they become subject to an external preponderating action, which maintains them in a new position ; but this transformation cannot be reversed.

It is immediately to be seen that these new conceptions, before which science has come to a stand, unanimously give support to the corpuscular theory, according to which the material atom is supposed to comprehend a complex aggregate of subtile elements more or less approaching to ether, and revolving in an incessant gravitative motion.

This theory receives yet another confirmation, different in character but not less interesting, in the consideration of the meta-elements, due to the eminent physicist Sir W. Crookes. He shows us that the actual progress of chemistry leads us to recognize at present the existence of certain mineral species endowed only with a kind of *quasi* identity. They certainly possess real differences, but of a secondary order, as if their

constituent atoms retained the same essential grouping, with one difference depending upon the movement peculiar to the elementary corpuscles of which we have just spoken.

In support of this hypothesis Sir W. Crookes instances the case of certain rare metals, and especially the case of yttrium, which he himself discovered, and which can be decomposed into seven or eight different bodies which he terms meta-elements. These preserve indeed the chemical properties of the metal, and this makes their distinction very difficult. It is none the less necessary, for under spectrum analysis the vapours of each one of them present characteristic spectra, in which we see, therefore, the probable manifestation of a special vibratory movement of the constituent corpuscles. The same phenomenon is to be observed with didymium, which has been decomposed by Dr. Auer into several distinct meta-elements, neodymium, praseodymium, etc. It is also the case with argon, which is itself more inert than nitrogen, and possesses its own very characteristic meta-elements. It is permissible to suppose that, did we possess chemical reagents powerful enough, we might decompose the majority of those elements which under spectrum analysis give multiple spectra; and we thus recognize that these bodies are not exclusively composed of homogeneous elements, but only by the semi-homogeneous union of atoms closely resembling one another, differing from the mean type only by certain internal vibrations which more specially characterize them.

Under the apparent diversity of different bodies we are entitled to imagine the unity of inert matter, and to suppose that the numerous elements or forms in which it appears were constituted at the time when the universe itself was formed by successive condensations of one ultimate element, a sort of primordial ether or *protyle*, which agglomerates itself little by little under the influence of the ambient medium, just as protoplasm does beneath our very eyes in the case of organic matter.

These successive agglomerations must have taken

place in as many stages as there are elements with which we are acquainted. At each of these stages the protyle became granulated so as to constitute the corresponding atom; this took place under the influence of the immense electrical forces whereof the ether is the depository. But these formations, determined by the state of the ambient medium, may not always have taken place under absolutely identical conditions of temperature, pressure, potential, etc., in various parts of the universe, so that they gave rise to distinct products, to meta-elements, the union of which only apparently constitutes a homogeneous element.

Without doubt the separation of these meta-elements is frequently impossible with the means at our disposal, as is the universe process of the transmutation of elements. But in both cases it is probably because we are unable to bring into play sufficiently powerful electrical forces to cause the dissociation of the atom.

It remains true, however, that in their search for this transmutation the old-time alchemists were not pursuing something quite futile, seeing that the notion of the complexity of the atom, from which to-day there is no escaping, leads us to admit as a necessary consequence the unity of primordial matter, the mother of all the bodies with which we are acquainted.

This is likewise the opinion put forward by M. Edouard Périer, the eminent naturalist, in his preface to the "Dictionnaire des Sciences et de leurs Applications." "The old chemistry of the elements does not remain inactive. The comparative study of the properties of elements reveals simple relations between their atomic weights, the radiations which they emit, and their melting-points—relations which permit us to suppose that beneath their outward diversity lurks the unity of inert matter."

It is at once clear what unexpected light is thrown by this new conception of matter upon the final destruction awaiting it together with the whole of creation, and we can understand how the law of eternal "becoming," which determines all the ephemeral manifestations of universal life, does not spare even the physical atom,

which seemed able in its unaltering immobility to set it at defiance.

The law of indestructibility governs matter in all its rigour ; but it cannot be applied during the limitless course of ages unless previously receiving a modified interpretation, which should admit of our taking into account the infinitely slow decomposition which appears to affect the material atom, and slowly but surely to be bringing it back to the chaos whence it emerged.

CHAPTER V.

THE FUNCTION OF ETHER IN THE UNIVERSE.

All Manifestations of Energy connected with Variations of Ether Atoms. Deductions from the Laws of Etheric Action in this World may be extended to the Universe as a Whole. The Universe believed to be Finite. The Tendency toward Uniformity in the Distribution of Heat. Gradual Exhaustion of the Energy of Ether. Arguments against the Eternity of Matter. Dynamical Transformations in the Universe Susceptible of Mathematical Investigation. An Infinite Intelligence would thus have a Perception of the Future. The Indelible Trace of Past Action throughout the Universe.

In the foregoing chapters we have described the fundamental law of the indestructibility of matter and energy, which governs all the manifestations of the physical world and thus determines the history of the universe. We have further attempted, in the light of the science of the present day, to discover in what manner we can conceive these two essential factors, energy and matter. In both cases we were forced back upon the notion of a subtile ether or invisible fluid, which alone is capable of furnishing us with something more than a purely superficial understanding of external phenomena.

All manifestations of energy, however varied they may be, can in fact be connected with periodic variations in the state of ether atoms, whether they are of the nature of true mechanical waves, as Fresnel supposed in the case of light, or whether they are mere changes of electrical tension, as the Maxwell theory now affirms.

As to matter, we cannot attempt to grasp it in its final constituent particles without again being brought face to face with ether. The complex nature of the atom may to-day be regarded as quite established, and this necessarily brings us, as we have just seen, to the

conception of corpuscles more or less subtile, resulting, we suppose, from the condensation of ether atoms.

When we push the analysis yet farther, matter and force become confounded, and the only effective reality remaining is the invisible ether. In the study of its manifestations we must seek the history of the universe. These manifestations, which are those of energy, are governed by mechanical laws, some of which are known to us, for they can be deduced from the study of the necessarily limited material systems with which we are in a position to deal. We are able, in fact, to predict the alterations which those systems are capable of undergoing under the action of definite forces, and by a bold but legitimate extension we conceive the possibility of extending to the universe as a whole the deductions which we have established in the case of the restricted systems with which we are acquainted.

It will doubtless be observed that such an extension could not be justified were the universe really infinite, as at first sight it appears to us to be. In such a case it would no longer have anything in common with the systems which we investigate in mechanics. We shall reply, however, that this objection does not appear to be justified by fact; for almost all astronomers are now agreed in viewing the material universe as a finite system; they assert that the countless stars which light up the heavenly vault are really limited in number, because even with our strongest magnifiers they always appear as so many determinate points standing out against a dark background, and do not form a continuous luminous expanse.

Since, then, we have to deal with a finite system, we are entitled to apply thereto the laws which are formulated by the mechanical theory of heat to meet such a case, in order to determine under what conditions work is producible in the system in view; and we may seek whether it is not possible to arrive at a conclusion affecting the general bearing of the history of the universe.

Now, theory informs us that the transformations which produce work from heat cannot be reversed;

they are necessarily accompanied by the continuous increase of the quantity which mathematicians term *entropy*; that is to say, they have a constant tendency to raise the temperature of cold regions at the expense of the hot regions, and thus to modify the distribution of heat by reducing it to a more and more uniform level. This is in fact an application of the law to which we before called attention, according to which indestructibility governs all the quantitative but not the qualitative manifestations of energy.

We must conclude that the universe began at a definite point and tends likewise toward a definite end, which will be marked by the uniform distribution of heat in all matter, which would effectually prevent all further movement. We may thus conceive that at the moment of the creation all available energy was concentrated in the ether, which from that time onward has been constantly yielding an increasing portion thereof to matter. The energy is thus being lowered to its least evolved form; but later, when speaking of the vital forces, we shall have occasion to examine whether it does not set free some higher form of energy that operates in a plane even more subtile than that of ether.

To us the universe would seem to be a vast mechanism of which we observe only the secondary or parasitical movements, the friction and heating, so to speak, of the bearings, the vibrations transmitted to the ambient medium. Their objective eludes us, for we are unable to get a complete view of the mechanism or to discover any useful labour which is performed.

This is doubtless a comparison which religious apologists have already long ago made, but nowadays it acquires a new cogency in the light of the present notion concerning the transformations of energy; for we now know that the result of those transformations, as far as the material universe is concerned, is constantly to reduce energy to its least advanced form; in a word, they consume it, just as does the mysterious mechanism of which we spoke above with respect to the active organs, and like them they would seem of necessity to collaborate in the carrying out of some hidden design.

Here again we have a new example of the influence which scientific discoveries must of necessity have upon philosophical speculations themselves; for the idea that the universe is in an eternal state of "becoming," that it started from a definite beginning to result in an equally determinate end, furnishes us with a strong argument in favour of an initial creation; and the views which we have just expounded regarding the complexity of the atom and the disaggregation with which it is threatened, also require us to reject the idea of the eternity of matter which is so often opposed to the idea of an original creation.

From another point of view, in order to confine ourselves to what concerns the history of the universe, we may remark that this conception permits of our imagining the mechanical concatenation of facts, and therefore of our getting at one and the same time a glimpse of the future and of the record of the past.

For we see in the universe a fixed quantity of matter acted upon according to very definite laws by an equally fixed quantity of energy; here we are confronted with a dynamical system, the transformations of which we may investigate with perfect exactness according to the mathematical processes applicable to mechanics. So, then, if it were possible for us to establish all the formulæ which at a given moment represent the variable state of the universe, we might quite well, by an appropriate series of calculations, deduce therefrom the resulting state at the moment immediately succeeding, and so step by step follow out all the transformations to come.

We may remark that these calculations would especially involve integrations, whenever *nascent* forces intervened, only defined by the influence which they had exerted during a previous infinitely short moment of time.

Under these conditions it cannot be objected that this mechanical conception would amount to nothing more nor less than a real determinism, which denies the intervention of liberty among the forces considered; for the working of the formulæ permits precisely of our representing by arbitrary terms the limited action of a relatively independent force.

The operations of integration introduce, indeed, into the formulæ new quantities designated *constants*, which are relatively independent of the previous state of the formulæ, and of which the value can be fixed at will, within very extended limits.

An infinite intelligence possessed of all these formulæ representing the variable state of the world, and capable of immediately grasping all the deductions proceeding from them, as well as of perceiving all the variant forms which they may assume, would thus have a perception of the future, without its being necessary to deny all freedom to the independent factors which determine it. Thus our limited mind can conceive how the intelligent being might acquire a progressive vision of the future, whilst undergoing a gradual development toward the infinite.

Side by side with the anticipation of the future which the etheric fluid thus contains in a latent state, it also no doubt preserves the complete vision of the past perpetually inscribed in its unceasing vibrations; and we can thus conceive that the fundamental law of the indestructibility of matter and energy applies in all strictness to the facts of the past, seeing that they leave an indelible trace behind them.

We should remark, indeed, that the least of these facts has of necessity produced a corresponding modification in the distribution of the energy which, owing to this very circumstance, has recorded it. The luminous ray which witnessed it carries its memory with it in its giddy journeys lasting many thousands of years, until it reaches the distant stars, and an eye placed there might receive the image as living as at the moment when it came into being. For the different waves, each corresponding to an impression given, are superimposed in the luminous ray without destroying one another. We have even discovered by means of the curious instrument known as the *photophone* that light could carry along with it a mere sound, or air-vibration infinitely slower and coarser than its own, and also restore it unimpaired.

We know, moreover, from radiography that even

darkness is not an insurmountable obstacle in the way of this registration ; for facts which darkness alone has witnessed are also recorded, thanks to the operation of appropriate rays, which can traverse screens apparently quite opaque.

We may thus say in all truth that the history of the earth and of the other stars is at present scattered throughout the universe. For the rays which the stars have emitted in the course of ages carry it written upon themselves, and we can hence see that it would always be possible to find a solution to all questions regarding the manner of our earth's formation, the different epochs through which it has passed, and even the evolution of mankind ; for we might recover the sight of all the great phenomena which have exerted a decisive influence upon its history, and which thus acquire capital importance for us.

The registration necessarily embraces the whole history of the universe, and in it our own personal existence has its due place, however imperceptible it may appear as compared with the immensity of the great Whole. As we remarked previously when discussing Christianity, it may almost be said that we possess scientific confirmation of the line in the catechism wherein God is said to embrace all things at a single glance and to perceive them as if He were present. Again, from the eschatological point of view, we have an explanation of the mighty scene of the last judgment as it is described in the magnificent words of the *Dies Irae* :

Liber scriptus proferetur
In quo totum continetur
Unde mundus judicetur.

. . . . .

Quidquid latet apparebit
Nil inultum remanebit.

The Book of Judgment is indeed the universe itself ; it is the incorruptible witness which bears somewhere in its immensity the ever present and ineffaceable mark of our brief passage through material life.

CHAPTER VI.

BIOLOGY. MATTER AND LIFE.

Living and Conscious Force amenable to the Law of Indestructibility. The Probability that any Organic Force independent of Matter will survive the Death of the Organism. The Usual Division of Nature into Three Kingdoms. Man's Place in Nature. Uncertainty of the Boundaries of these Kingdoms. Life the Outcome of Molecular Affinities. Apparent Evolution of Inanimate Matter. Internal Movements in Liquids and Metals. Phenomena that seem to indicate Memory in Metals. Leibnitz's Opinion that no Inorganic Kingdom really exists. Determinism in the Cells, or Plastids, of Living Bodies. Determinism in the Vital Phenomena of the Lower Organisms. Consciousness governed by the Determinism of Natural Law. The Power of the Will subject to the Same Law. The Freedom of the Will an Illusion.

In the foregoing chapters we have given an account of the great law of indestructibility, which watches over the conservation of matter and energy as well as over the conservation of facts themselves, thus dominating the entire history of the universe, in that it permits us to characterize the course of development of that history and assign to it its inevitable end.

But in addition to these manifestations of purely mechanical energy with which we have so far dealt, we have now to inquire into manifestations depending upon forces of an entirely different nature, namely, living and conscious forces; it will be our business to discover in what degree we may claim for them the benefit of coming within the law of indestructibility, which has so far been universally respected.

The general principle can evidently give rise to no dispute; the energy which manifests itself to us in life does not perish, any more than that which operates

on inert matter. But one might very well ask whether life does not present us with simple phenomena of a mechanical or chemical order, the conservation of which does not therefore offer all the interest which we should be willing to ascribe thereto.

What we have to discover is, whether by the side of or above these purely material phenomena by which life manifests itself, we cannot trace the action of some force independent of them. We should in such case be better justified in supposing that force to survive with its special characteristics, and hence to preserve a certain originality when removed by death beyond the perception of the senses.

If this first conclusion is in a general way legitimate of unconscious vital force, much more will it be so of the distinctly individualized forces characterizing the superior organisms endowed with consciousness and reason. We are, in fact, confronted by the problem of the objective existence of a vital force and a conscious force, and any solution which we are able to arrive at will profoundly modify the interpretation which we are to give to the conception of survival, as deduced from the law of indestructibility.

Doubtless it may seem that at first sight no difficulty can arise upon this point. The organism which develops according to a definite plan, whether animal or plant, differs by evident characteristics from inert matter, seemingly plunged in a kind of eternal sleep, incapable of development, incapable of reproduction, and unacquainted alike with life and death. Between the two there is an important distinction which no one can fail to recognize ; the living organism evidently possesses a distinct force, the existence whereof we cannot deny.

And if, limiting ourselves now to the clearly differentiated class of living organisms, we seek to define its main divisions according to the modes of vital force, we immediately and unhesitatingly separate the animals from the vegetables—the plant, devoid of motion and, doubtless, without sensitivity, from the animal which can manifest volition, pain, and pleasure, and often gives evidence of marked individuality.

In the human species individuality goes hand in hand with intellect, a certain power of abstract reasoning, and the faculty of speech possessed alone by man. So distinct is man that some naturalists have assigned him a separate kingdom, for he appears to them to differ as much from other animals as they do from vegetables.

We thus observe between the four great kingdoms of nature a very clear-cut demarcation, and we conclude that each of them must be characterized by the intervention of an appropriate force entirely peculiar to it.

Such a conception would evidently be devoid of all difficulty were it possible to confine one's observation to the most common cases; but it must be admitted that it is really quite impossible to define these groups with precision, despite their being apparently so characteristic. The frontiers bounding them vanish upon close investigation. Inert matter on some occasions displays phenomena which we at first supposed to be exclusively dependent upon life. At the lower extreme of the animal kingdom we encounter sensitive beings devoid of movement, which are in many respects mere plants; in the same manner at the upper extreme we occasionally observe animals endowed with real reasoning powers and capable of supporting comparison with certain races of mankind; it must therefore be admitted that it is possible without any break in continuity to pass, by insensible gradations covering the whole scale of creation, from the humble mineral to the most perfected of human beings.

This is fact which it is to-day difficult to dispute, and we are hence obliged to conclude that life itself, in all its manifestations, is but the inevitable outcome of the same molecular affinities that govern inert matter, and that it therefore constitutes nothing more than a mere chapter in the history of carbons, in which it is impossible that any independent force should play a part. It may thus have been seen how much interest attaches to this fundamental question, if we have in view a solution of the problem of survival. It behoves us to make it the object of minute investigation.

In the lower manifestations of life we are wont to fix upon the faculty of development, or evolution, as defining living matter; this is, however, far from being a sufficient characteristic, for inanimate matter can itself, under favourable conditions, present these marks. This is especially the case with inert matter which has already undergone a certain degree of organization, as, for instance, in the formation of crystals. These latter can reproduce themselves under the action of an appropriate germ. If a piece of sulphate of soda be placed in a super-saturated solution of the body, it immediately brings about the formation of a crystalline precipitate which settles round the nucleus thus supplied, much as the plastids build up the egg about the initial germ.

It may sometimes even happen, as in the case, for instance, of glycerine, that this is the only means known of inducing crystallization. Till within the last few years glycerine was unknown in this form, and the crystals with which we are to-day acquainted were obtained for the first time under purely accidental conditions, which it has since been impossible to reproduce, and they can be prepared only by "sowing" already formed individuals, as if we were dealing with a living organism.

Further, the aseptic precautions which prevent the development of the generating micro-organisms stop also that of crystals. The chemist Oswald demonstrated in the case of salol that crystals of this body can be obtained by simply immersing in the mother liquor a platinum wire which had been previously brought into contact with a crystal. If, however, this wire were first sterilized in flame, no crystallization supervened.

The germ employed may even determine what kind of crystals will be produced, when we have to deal with a body capable of adopting two different systems, as, for instance, sulphur. If a U tube be introduced into the mother liquor and crystals of both types be then placed in it, one in each branch, two distinct crystalline deposits will be produced in the same liquid.

We may add that besides this production by gemma-

tion, the crystal is also akin to living matter in its manner of growth. The crystal increases its volume according to a determinate plan. When steeped in an appropriate mother liquor, it can repair any breaches by inducing matter to deposit where it is required in order to re-establish the integrity of its form. It can even feed itself, so to speak, in liquid whose chemical constitution is slightly different from its own, if that liquid produces the same crystalline system.

But if we now abandon crystals that owe some of the lifelike appearance to their organization, and if we examine inert matter generally we are forced to admit that the immobility which we attribute to it is often merely illusory, and the rigid surface of a metallic bar may often hide internal movements such as we should at first be far from suspecting.

Micrographical research has brought about revelations upon this point of a completely unlooked-for kind. The observer who applies a powerful microscope to the study of a drop of liquid, or to the rigid section of a piece of metal, will be astonished to discover traces of activity which seemed prohibited to inanimate matter.

In the first case he can watch infinitely small particles constantly moving about in the liquid; they are probably organic detritus, but not living micro-organisms. They move, however, as if endowed with life. This is the well-known Brownian movement, which seems to be self-maintained and is at all events perpetual. It is common to all liquids, whatever their degree of acidity, so long as they are sufficiently fluid; it is also to be found in gaseous bubbles such as those contained in the laminæ of quartz, and it may be viewed as constituting the first manifestation accessible to our senses of those hypothetical molecular movements postulated in latter-day theories of matter.

Upon investigating the internal constitution of metals we come across analogous phenomena, which are no less extraordinary. In the place of that rigid homogeneity which we were entitled to expect, the microscope reveals to us, on the contrary, a complex organism of nuclei and cells, including variable aggregates, capable

of mutual reactions; capable, that is, of modifying themselves and in a certain measure of transforming themselves; they are also able to bring about certain displacements of the elementary molecules with the object of reacting upon the ambient medium, much in the same way as would a living organism when seeking to defend itself against destructive agents.

In ordinary steels it is the carbon molecule which passes from the combined to the dissolved state, the original iron undergoing allotropic transformations which completely alter all its properties; and these modifications are produced not only in the metal raised to a very high temperature, when it acquires a certain plasticity that permits the relative displacement of the elementary molecules forced back under the irresistible action of powerful forge-machinery, but they also appear, sometimes more and sometimes less accentuated, but always perceptible at least under the microscope, in any case when the piece is under stress.

If, for example, it be submitted to a tensile stress a constriction appears at the weakest point, and this would result in a rupture, were it not that the metal reacted in some way to protect the threatened section. The resistance at this point immediately becomes stronger as a result of internal transformations, and the constriction ceases, in order to reappear at some other point now become the weakest in turn; this part again reacts in a similar manner, so that the constriction passes along the whole length of the test-piece until it becomes finally localized at some particular point, which will remain the weakest until the rupture.

Not that the metallic organism does not make an energetic effort, which M. C. E. Guillaume, the eminent experimentalist, unhesitatingly qualifies as heroic, to protect the threatened point. It concentrates upon it all available means of resistance; and if the experiment be interrupted before the breaking-point is reached, but when the local constriction that precedes rupture is strongly marked, and if the experiment then be renewed after the test-piece has been passed through the roller and reduced along its whole length to the diameter of

the constriction, it will be discovered that what was formerly the threatened point of rupture is now on the contrary the most resistant point in the whole test-piece ; and new constrictions appear elsewhere, proving that the metallic organism was able to reinforce the region attacked just as a living organism might have done.

These profound transformations are necessarily accompanied by certain displacements of the constituent molecules taking place in the depths of this rigid medium. We can even remark that they still persist even after the stress which provoked them has ceased to be active ; and as a matter of fact, a metal bar which has undergone an elastic deformation may sometimes take several years in returning to its original dimensions, even if it should ever return to them ; for the period of complete repose seems to recede continually in proportion as our apparatus for observation becomes more exact.

This incessant displacement is carried on even apart from any attempt at special deformation ; and the experiments of Mr. Robert Austen, confirmed by those of Dr. Le Bon, have shown that at a temperature of only a hundred degrees centigrade, and sometimes even at the ordinary temperature, gold can become diffused into platinum or lead by the simple contact of the two metals, so true is it that equilibrium and repose exist nowhere in the universe, and that they are as unknown to inert matter as they are in the living world.

We succeeded in showing in a preceding chapter that the atom no doubt conceals beneath its apparent immobility internal movements of an exceedingly complex description, and stores of energy which we can with difficulty imagine. We demonstrated, moreover, that the atoms of certain elements, when brought to the colloid state, which is doubtless one of actual disintegration, assume new properties of a most strange kind and very much recalling those of organic ferments. We must therefore recognize that absolute immutability is not an exclusive character to which we may look as the fundamental distinction between the kingdom of living as opposed to that of inert matter.

Further, it has been reasonably maintained that memory itself, which would certainly appear to be an exclusive attribute of higher organic life, is not totally unknown to inert matter, and we know indeed of certain metallic alloys which, when brought to a determinate state, present, nevertheless, different qualities according to the cycle of operations through which they have passed to attain that state. This is an application of that curious property designated by physicists as *hysteresis*.

Again, the magnetic thread of a Poulsen phonograph retains absolutely imperceptible magnetic impressions, thanks to which it will reproduce without error through the medium of a vibrating plate the series of words once heard by it, so true is it that inert matter also possesses a history which it does not forget.

If we now endeavour to define the class of living organisms by some other characteristic which it alone exclusively possesses, we shall always encounter the same persistent difficulty. For, the better we study the question, the more certainly shall we find the same identical laws applying equally in both kingdoms ; and we come back to the famous dictum of Leibnitz, according to which no inorganic kingdom really exists ; the whole universe must, on the contrary, be conceived as a living organism manifesting itself only under more or less complex forms, which we are pleased to term mineral, vegetable, or animal.

The living cells, or plastids, which are the necessary elements of all living beings, are themselves formed of complex molecules—agglomerations of atoms of carbon, hydrogen, oxygen, and nitrogen—possessed of no other properties than those assigned to them by inorganic chemistry, and the organized bodies which they are at every instant elaborating are precisely the same as those which inorganic chemistry can nowadays produce.

Under the influence of the ambient medium the plastid reacts in an inevitable manner, which it is possible to predict. We can, for instance, foresee by reasoning or calculation, says M. F. Le Dantec, what influence such

and such an extraneous factor, as electricity, heat, light, or a chemical reagent, acting upon a given plastid, will exert upon its ulterior development. This leads us to imagine that such development is entirely the outcome of internal reactions thus set up within the organized cell.

Starting with the fact, which to him seems well established, that the life of the plastid is governed, from the physiological point of view, by a determinism as vigorous as that governing inert matter, M. Le Dantec considers himself in a position to draw conclusions of the gravest importance as far as the higher animals are concerned.

If we proceed upwards, he says, in the scale of living organisms starting from the protozoans, we shall observe the vital manifestations growing little by little more complicated in proportion as the number and differentiation of the plastids constituting the bodies of the corresponding animals increase, and we are forced throughout our ascending investigations to consider the vital phenomena as determined. We must therefore conclude that, if these animals are conscious, we have not the right to accord them anything but a simple onlooking consciousness incapable of all initiative or directive power—the sole consciousness, in fact, which we can ascribe to the elementary plastid; for we have ascertained that it forcedly obeys all external influences, the struggle between which it can view at the most as a passive spectator unable to exert any will or make any impression.

At the summit of this life-scale man sees himself. Doubtless he feels that he is endowed with consciousness. But the strictness of the connection linking together all the terms of the series obliges us to conclude that this consciousness can possess no faculty denied to that of other animals, if indeed it exists.

In their case we cannot verify the existence of this consciousness, but we know that of necessity it is inert, as is the case with the plastid. We must conclude that the same holds good of the human consciousness. It is but a mere epiphenomenon connected with the facts

of which it is the spectator ; for our acts are solely the necessary consequence of the evolution of our being, which in its turn is governed, like everything else in the universe, by the determinism of the natural laws. Be it remarked, indeed, that the large majority of those acts are of a purely instinctive kind ; that is to say, they are the involuntary response of the organism when actuated by stimulation from the external surroundings. An outside observer may therefore predict them as he does a chemical reaction the constituent factors of which he has previously measured.

It is doubtless not quite the same when we have to deal with non-instinctive acts, wherein volition seems to play a part. But this is merely an apparent difference, depending upon the fact that a sensation received can stimulate several possible reactions between which it appears to choose. As a matter of fact, this choice is no more voluntary than is that of an electric current passing between two points connected together by a great number of tangled conducting wires. It is impossible for us to predict the exact line which the current will follow, for it would be necessary to know the exact resistance of each of the intermediate elements ; but the fact of our ignorance does not prevent the current making an immediate, unhesitating, and unerring choice.

The same holds good of organic life in those unexplored regions where the sensation is metamorphozed into a voluntary act. We are entirely ignorant of how it will choose amidst the infinite tangle of possible ways ; but the organism, which at each moment concentrates within itself the sum of the reactions of all the constituent molecules, also experiences no hesitation, for it makes the choice which it is compelled to make. We are bound to recognize that this choice is fore-determined, meaning thereby that it would be identically reproduced in any other case in which the elements concerned were all present without any modifications.

The reaction therefore takes place just as inevitably as when an instinctive act is in question, the only difference being that an outside observer cannot foresee it ;

but this difference is purely external and does not in any way alter the essential nature of the phenomenon.

Consciousness tells us that we are possessed of liberty of choice; but this is a mere illusion, due to the fact that these phenomena of consciousness are aroused in us by the very acts which manifest the life of the organism. They are developed side by side with those acts which they verify and record, but it is an error to set up between this accompanying verification and the act itself a relation of cause and effect. Consciousness is only and can only be an inactive and impotent witness of the act, for all the observations we can make of organized beings teach us that the chain of facts always operates just as though consciousness had no existence, and the principle of continuity, from which there is no escaping, will not permit us to attribute to consciousness in man an activity which it cannot possess in other animals.

CHAPTER VII.

THE VITAL VORTEX.

All Organic Forces subject to Determinism and to the Law of Indestructibility. Determinism not inconsistent with Intervention of a Purely Directive Force. Recognition of this Principle by Claude Bernard and Edmond Perrier. The Difference between Elementary Cells and Mere Protoplasm. Cuvier's Comparison of the Movement of Molecules in the Body to that of those in a Whirlpool. Action and Reaction between the Body Molecules and the Ether. The Function of Microbes in Vegetation. What it is that determines the Kind of Animal that will spring from a Life-germ. The Theory of Heredity. The Part it plays in preserving the Lives and Instincts of Animals. Immutability of Species not Absolute. Evolution of Human Faculties. Ether as an Aid to Evolution. The Action of the Moral upon the Physical. Views held on this Point by Quatrefages, Milne-Edwards, and Perrier. Replies to the Materialistic Theories of Le Dantec and Others. The Mind creates the Brain, not the Brain the Mind. The Gradual Consumption of Vital Energy in the Production of Heat. Man's Hope for the Time when this Consumption will be Complete.

FROM the foregoing exposition it may be seen how the result of the theory of determinism is to reduce to mechanical forces all the manifestations of organic life together with the various faculties of the human soul, including volition itself, which loses all independent existence. Hence, from the point of view of survival, these faculties, being nothing more than mere ephemeral movements set up by physical forces, can hope for no survival other than that of the physical forces.

It must not, however, be thought that, even when reduced to these restricted conditions, this survival would be of no account ; for we have seen in the preceding chapter how the universal law of indestructibility

preserves all manifestations of energy while transforming one into another, and also that it records all facts without destroying them.

It is at the same time evident that this merely impersonal immortality, in which the once living organism would be represented only by a few nameless vibrations always subject to varying transformations, would lose much of its value ; and it is our business to inquire whether the bold negations of the foregoing theory are really based quite legitimately upon scientific observations and the laws at present deducible therefrom.

We shall remark, first, that the determinism of vital phenomena does not necessarily exclude the possibility of intervention in the development of the organism by a purely directive force, which, although it doubtless in no way alters the necessary reactions between various physical agents present, nevertheless watches over their due sequence in order to assure the production of an organism conforming with some preconceived plan, and according to an admirable subordination which the physical forces could not possibly realize.

This was, indeed, the explicit opinion of Claude Bernard, the great physiologist :

" There is," he says, " in the animate body a sort of orderly arrangement which cannot be overlooked, because it is in reality the most salient characteristic of living organisms. Thus, when considered singly, each phenomenon of the economy is tributary to the general forces of nature, but, when taken in conjunction with the others, it reveals a special bond, and seems to be directed in the course which it follows, and to be brought to the place which it fills, by some invisible guide. The morphology of the organs is completely distinct from their physiological activity. Life directs phenomena which it does not produce, while the physical agents produce phenomena which they do not direct."

This is likewise the opinion of Edmond Perrier, the great naturalist, in his magnificent treatise upon " The Formation of Animal Colonies." He brings out with great skill the special characters distinguishing the organized being, which are to be found in living matter however elementary its form, even in that primitive individualized Oken's jelly, which appears to be yet devoid of all vital influence of any particular form.

The living matter which goes to make up elementary cells, the plastids and merides whose combination constitutes living beings, already assumes, in nucleated cells, a peculiar form giving it distinct specific characteristics, whereas protoplasm, as observed by Dujardin, in certain microscopic organisms termed *sarcodes*, appears still to consist of homogeneous matter devoid of all organization ; it would thus form, as it were, a substratum of life. It approaches inert matter as closely as may be, and permits us, so to speak, to catch the first crude beginnings of the manifestations of the mysterious force of organism. This study doubtless proves to us that protoplasm is nothing but an albuminoid substance, a compound of oxygen, carbon, hydrogen, and nitrogen, with a slight admixture of mineral bodies. It certainly belongs to a group of particularly complex substances, which chemistry has not yet succeeded in obtaining ; yet its artificial preparation does not appear to present any essential difficulty, and it is perhaps not overbold to suppose that the day when we shall succeed in preparing it by synthesis is not very far off.

It must, however, be admitted that even then the fundamental difficulty of the reproduction of protoplasm will still remain. For living matter has no determinate chemical composition ; it can, so to speak, be modified in all its proportions without being destroyed; it is always in process of change, whereas the chemical compound ceases to be itself so soon as it undergoes the slightest modification.

Hence, it must be allowed, as is so forcibly remarked by M. Perrier, that life is not specially attached to the molecules which sweep along in a never-ending cycle.

It takes them to itself for an instant and associates them temporarily in the continuous vibratory movement which characterizes it ; then it turns them away and replaces them with others.

In an earlier chapter we have already endeavoured to demonstrate, with respect to the human body, the eternal movement of constituent molecules which takes place in us, and we have shown that in reality those

molecules in no wise belong to our physical body. Nature lends them to us solely for our precarious enjoyment, and never gives us permission to keep them. The continuous exchange, which takes place with relative slowness in the human body, goes forward with far more rapidity in the life of protoplasm and primary organisms. We may say that in their case the constituent elements are renewed in their entirety every few moments. We must therefore look beyond them for the permanent force characterizing the organized being, the hidden spring which keeps this incessant movement going.

Without doubt, external and apparent agents exert an influence upon the movements of protoplasm which it is impossible to deny ; but they are neither the exclusive nor the predominant cause ; for the movement retains its activity apart from all intervention of the surrounding medium.

Life, says the great naturalist Cuvier, seems to us like a whirlpool, the liquid vortices and gaseous cyclones whereof furnish us with an image that has its near counterpart in the domain of matter. The whirling eddy which we watch at some particular point in the river carries along with it successively all the molecules of water brought to it by the stream. These molecules may be said to constitute the vortex at any given moment, in that it cannot manifest itself without them ; but in reality it is the resultant of purely external causes, such as the conformation of the river-bed at that particular point, the obstacles which it may present to the free down-flow of the current, the resulting variations of speed, etc., and the molecules of water successively constituting it exercise in themselves only the most restricted influence ; a cork or foreign bodies and liquids which they may carry along with them are swept round, like them, in the same vortex, without modifying it more than they.

In the eyes of Cuvier this river whirlpool was an exact reproduction of the phenomena of life ; for, in his view, the same material molecules never abide permanently in the protoplasm, but are carried round in the incessant whirl which alternately attracts and discards them.

Cuvier hence concluded, as have the most authoritative physiologists after him, that these continuous phenomena of assimilation and disorganization are the outward sign, as in the case of the river whirlpool, of the action of exterior forces for the most part independent of the material molecules which they precariously animate. The present physiological school shows a tendency, however, to abandon partly the simplicity of this fundamental conception. Two essential elements are now distinguished in protoplasm, namely, a living substance and independent reserves. It is asserted that the life-whirl acts almost exclusively upon the latter, sparing on the contrary the primordial substance which presides over the life of the cell, and inflicting only limited destruction upon it.

Whatever may be the case, this slight restriction does not appear to be of such a nature as to modify the conclusion which we previously drew from the conception of a life-whirl. Even should the cell contain certain permanent elements, they are insufficient alone to explain its growth, the attraction which it exerts upon foreign elements, and the voluntary subordination in which it remains with respect to the animate grouping of which it forms part.

In order to discover this governing force, which perpetually eludes us, we must again look to an invisible grouping of the molecules of that imponderable element to which we have already so frequently been compelled to have recourse in order to explain the movements even of inert matter.

We have previously seen that physics cannot explain the phenomena of light or electricity without the intervention of ether. This mysterious fluid is supposed to play its part, as we have said, in the constitution of the material atom, the properties of which it characterizes by its peculiar mode of arrangement. We are therefore only legitimately extending this reasoning when we recur to the same explanation in the case of vital phenomena, and admit that they, too, are determined by the constant action of a special force, also the result of an appropriate arrangement of ether corpuscles.

The only point of difference from inert matter is that, whereas the molecules whose grouping constitutes the material atom can be detached only with exceeding difficulty, we are here in presence of an ether group almost independent of the matter which it involves.

It must, however, be remarked that this independence is not absolute ; for the very movement of the material molecules determines a continuous reaction upon the directing ether ; and though this reaction is almost imperceptible from moment to moment, its cumulative force can in the long run profoundly transform, if not entirely destroy, the organism.

Even thus is it with the river whirlpool of which we spoke a short time back. It is the outcome of an arrangement of the river-bed determining the nature of the current at this particular point. But the current none the less reacts upon the obstacle, which it modifies little by little. The imperceptible transformation which has been going forward is seen only after a long lapse of time. In the same way we may suppose the transformation of living species to take place under analogous conditions ; the matter involved and the ambient medium reacting upon the etheric force.

We can at the same time conceive how it is possible without any break of continuity to pass along the whole scale of living organisms, if we accept the fact that this force is doubtless not constituted by a single indivisible element upon which life is necessarily dependent, but by a permanent complex etheric grouping more or less fully individualized.

This grouping governs matter according to invariable laws, having in them nothing that is arbitrary, and necessarily reproducing the phenomenon under identical conditions. If, however, it can manifest itself only through the exclusive intermediary of the affinities of the matter which it brings into action, and if we are entitled to say that all the chemical compounds which it produces might be obtained equally well by other means apart from it, nevertheless is it true that it impresses upon the elementary reactions which it sets up a character entirely distinct from that which they would otherwise have.

The micro-organisms presiding over the formation of the humus of the vegetable soil, those which are able to fasten the atmospheric nitrogen in the roots of plants, or extract oxygen from the decomposition of inorganic carbonates, those which take part in fermentations of all kinds, in the phenomena of nutrition, in birth, in the growth and in the decomposition of all that is living—all these necessary workmen in the great laboratory of life exercise a peculiar chemistry of their own, the particular laws of which are far from being identical with those which govern the inorganic world.

If in elementary reactions these living atoms intervene to direct the affinities of the inert atoms upon which their action is exerted, they themselves are governed in their turn, in the manifestations of higher life, by a new force even more inaccessible, which manifests itself by obliging them to collaborate in the carrying out of the general plan which it is pursuing ; so much so, indeed, that when that force disappears the phenomena will take an entirely new turn.

In the case of sudden death, brought about for instance by excessive moral shock, the body is affected by no perceptible lesion, and yet the activity of the micro-organisms will undergo complete and instantaneous transformation ; henceforth they will insure the decomposition of the corpse with the same solicitude that a moment before they displayed in sustaining its life.

We thus conceive the vital force among the higher animals as associated with a grouping of infinitely attenuated corpuscles, even more subtile than those of the ether, and directing the etheric vortices just as the latter direct the material atoms which they attract.

These new groupings constitute as many definite types as there are species of animals, and each of them is transmitted together with the germ which is destined to become a new being conforming with the specific type. It is this grouping, in fact, which gives to the germ its whole value and determines its life history ; for the germ itself, taken at the moment of birth and viewed with regard to its chemical composition, contains nothing which will allow us to predict its development. We

cannot even say whether the animal which is to spring from it will be the highest or lowest in the organic scale, a reasoning man or a simple protozoan.

M. F. Le Dantec, whose admirable works draw their inspiration from a point of view absolutely antagonistic to that here adopted, asserts that every living organism, so soon as individualized, is characterized by the special constitution of its protoplasm, which remains uniform throughout its course of existence and in some way determines its physiological and moral history.

It is scarcely necessary to remark that at bottom, and despite the divergence of principles which sunders them, this ingenious theory blends with that here expounded, for both endeavour to explain the facts of individual life by consideration of a directive grouping special to it.

We look for this grouping in the etheric plane simply because we see no possibility of associating its properties with visible matter, as does M. Le Dantec. Our opinion is shared by the majority of physiologists, who remark, as M. Dastre so well shows, that it is difficult to speak of a special and uniform composition with reference to so essentially variable a liquid as protoplasm. We are hence compelled to look to the etheric plane for the unknown cause of the continuous activity for which matter furnishes no justification.

We have seen that specific heredity cannot be explained by any theory in which only the properties of tangible matter are taken into account. It has not been possible to prove, as Darwin supposed, that the germ receives plastidules derived from all the cells of the bodies of the parents, and we are therefore inevitably reduced to considering invisible and infinitely subtile corpuscles as transmitting and maintaining life.

The etheric vortex thus engendered concentrates within it, besides the specific form, the tradition of acquired habits. It is by its aid that the new-born animal, upon entering into life under conditions often precarious, performs instinctively certain movements peculiar to its species and requisite for the development, maintenance, and preservation of its existence.

It is under these conditions alone that it can do without the support and instruction of its parent, which it often does not even see, as is the case with most insects, which die immediately after laying the eggs from which their progeny will later emerge, possessed of the instinct of their race and endowed, as has been shown by experiment, with the new habits acquired by their parents during life, if by any chance they were placed in abnormal conditions or confronted with peculiar difficulties compelling them to add something to their hereditary instinct.

Here we have an example of the need of this invisible intermediary whereby are assured the permanence of racial forms and the continuity of racial instincts, and we comprehend, too, how it becomes possible to conceive the immutability of species. We recognize that this immutability is the result of an etheric grouping more subtile than that of the material atom. It is immutable in the same sense; but this immutability is merely relative, for the grouping undergoes a constant reaction under the influence of the vital vortex which it provokes, just as the eddy of a river is always changing under the continuous reaction caused by the modifications which it produces in the material obstacles presented by the river bed. The reaction thus exercised at each instant on the vital vortex is no doubt so trifling that it may be regarded as non-existent, but in course of time it accumulates and acquires an appreciable importance, and so may insensibly result at last in a transformation of the species.

The higher the forms of life, the more pronounced are these modifications; in the lower forms, on the contrary, they are much diminished. It would seem, indeed, that the corresponding etheric groupings offer better resistance to perturbing influences when their action upon matter becomes more immediate; and thus it is that the chemical atoms which constitute, so to speak, the species of the inorganic world, have so far defied all attempts at decomposition.

As we proceed upward in the scale of organism, the vital force takes new characteristics in addition to

those which it had at first, and which give it a distinct physiognomy. It is always the same incessant vortex characteristic of protoplasm; but little by little appear sensitivity, intelligence, volition, in fine all the faculties of the human soul, which we already find more or less latent or apparent in the higher animals.

These faculties are expressed by more or less subtile etheric groupings, which must preserve their own particular character upon the corresponding plane in conformity with the law of indestructibility, which we find to be constantly in force in the material world.

The chemical atom passes through the most varied combinations without being either modified or destroyed; physical energy is preserved integrally through all its manifold manifestations, and organic life appears to us to be always self-identical in each of the species which it animates. We have, therefore, reason for supposing that the mysterious movements of subtile atoms of which organic life is the result also conform to the law of indestructibility governing all the planes of the universe.

And if, in thus representing them by permanent etheric groupings, we bestow an objective existence upon the forms of organic life, because we see no possibility of endowing the material atom with a directive power of which it is devoid in all other cases, are we not also entitled to apply the same process of reasoning in the case of the higher animals, in order to explain the existence of their souls, by showing how, one after another, there appear in them the qualities of sensitivity and later of intelligence and volition, qualities unknown to the elementary protoplasm and lower organisms, and which give to their possessors a very definite individual character?

At the summit of the scale we find man possessed of faculties of abstract thought, charity, and self-sacrifice, which are unknown to the higher animals, and we are again led to consider this as a manifestation of a more subtile ether-grouping, likewise endowed with a certain indestructibility.

Experience proves to us that this etheric grouping,

albeit it operates upon a plane other than that of matter, is none the less capable of interfering with organic life, and in some cases of modifying the regular course of development which it would otherwise pursue. The action of the moral upon the physical is a phenomenon constantly to be observed. Joy and grief can cause death ; terror can induce sudden paralysis, whiten the hair, or suspend the function of some particular organ, such as sight or hearing. But even more than this : when this etheric force acts upon living matter taken, as it were, in its nascent state, it can give rise to new forms which are not those of the normal organism, and which consequently indicate the interference of some disturbing element.

Take for instance birth-marks, the *nævi* which appear upon the body of the uterine fœtus and occasionally reproduce, even to the minutest detail, the appearance of some external object which may have caused an excessive impression upon the mother. It must be acknowledged that the psychical reaction thus provoked possessed sufficient active material power to overcome, in a certain degree, the aggregative forces governing the growth of the living organism, and to modify the arrangement toward which they tend. Here again we have to deal with a clear instance of the interference of some special force quite independent of those which we remark in the study of inert matter ; and here we are reverting to the old theory which we have already encountered in a different garb when investigating ancient beliefs ; it is a theory, however, which is insisted upon by many of the most authoritative among naturalists.

M. de Quatrefages believed that side by side with the material forces there exists a distinct *animic* element, in which he recognized the unknown but single cause of the phenomena of animality.

Milne-Edwards supposed it to be a subtile matter diffused in the mysterious ether, while M. Perrier tells us that the conception of an etheric grouping attached to the protoplasm of a determinate germ, to which it transmits the hereditary faculties, is by far the most

simple and most comprehensive hypothesis; and, in so far as the human soul is concerned, that eminent naturalist explicitly declares that nothing entitles us to deny it an objective existence or to consider it a merely transitory and eminently destructible combination.

In the view of the doctrine of evolution it is, he says, the final outcome up to now of a long process which has been going forward through the ages, parallel with that evolutionary process which has brought the human body to its actual state, and consequently it must subsist likewise with its own peculiar characters in virtue of the law of indestructibility, which is never disobeyed.

We are not unaware that this conception, which affirms the existence of vital forces and locates them in the vibratory movements of an invisible element, is still far from being universally accepted. We have even given a summary of the theory put forward by M. Le Dantec which recognizes in the individual consciousness nothing but the simple sum of the consciousness of the elementary plastids, whose union forms the physical body. We have also shown that such a hypothesis appears to be neither sufficient nor exact, for it attributes to material molecules properties unknown to inorganic chemistry, and of which an explanation must be sought in an additional invisible element, just as we are bound to do in the case of physical forces. It is, however, expedient to examine, in greater detail, certain among the objections advanced by materialistic theories, and so bring out the replies applicable to them.

As regards the formation of the individual consciousness, it may be advanced, in the first place, against M. Le Dantec, that it remains in complete ignorance of the elementary reactions maintaining the body which it animates; the consciousness indeed becomes more and more prominently accentuated in proportion as those reactions become less so, and as the physiological life becomes less absorbed by the work of assimilation impeding the manifestation of the moral life. We may also adduce what has been remarked in the case of certain functional diseases, locomotor ataxy for instance,

that though the power of co-ordinate movement vanishes, the moral consciousness is not impaired. It is, again, constantly observed that children display natural qualities and inclinations which it is impossible to discover in their parents; twins, for instance, who have been brought up under absolutely identical conditions, nevertheless present entirely dissimilar aptitudes; and this cannot be explained by the influence of their external surroundings.

It has been advanced as another objection that we do not know of the existence of thought apart from the brain, and that we must consequently regard thought as a mere function of that organ. Against this it must be remarked that the working of thought in the brain is completely distinct from that of the vital and organic forces, for it involves no concomitant chemical reactions, as they do, and consequently has no real equivalent in the material world. We should also recall a fact which is exceedingly strange although so commonly remarked, namely, that sleep, which in certain fashion interrupts physical existence, does not always suspend the action of thought. Frequently, indeed, the idea or answer to a problem which we had vainly sought the day before dawns upon us when we wake, as if the soul had succeeded in working it out during sleep by a sort of inward unconscious process, which none the less reveals to us the independent activity with which it is endowed.

Moreover, the very tenets of evolution tell us that it is the tendency of the function to create the organ; but this law would be completely violated if thought were the simple outcome of the brain's action, for it would then be the organ which had created the function.

We should rather view the brain as the organ which materializes consciousness and ideas in the physical world. Otherwise they would exist only in the etheric plane. If in the evening of life thought loses somewhat of its vigour and clarity, it is because the instrument which it possesses in order to manifest itself no longer enjoys its pristine acuteness, but has become worn out together with the physical body. We know, moreover, that both thought and personality are in a certain

measure independent of the brain, seeing that in cases of somnambulism and mediumship we may observe the unconscious being, or even different personalities, for the most part purely fictitious, temporarily express themselves by means of the organ of the somnambulist or medium, who nevertheless afterwards returns to his normal state, thus proving that the brain can undergo temporary transposition without being affected thereby.

A third objection may be advanced, namely, that all the arguments which have been put forward in support of the independent existence of the soul apply to all the animals as well. In principle this remark is quite correct. Apart from specific survival we are obliged to concede a certain independence to the consciousness of the higher animals, but only in so far as that consciousness is individualized and can perform acts not dependent on pure instinct, which latter can be explained by the simple consideration of the specific soul.

We may suppose in this case that the individual soul is represented by etheric movements of a more subtle description, whence it draws, temporarily at least, an independent existence.

In each of these planes the vortex thus constituted is doubtless not indefinite in its duration. As time goes on, it becomes modified as to those vortices which visibly act upon matter, and when this transformation takes place a more subtle vortex appears corresponding to a higher faculty, and in this the individual consciousness is localized.

This is clearly no more than a theory ; but it may be seen how grandly it would generalize the doctrine of evolution, seeing that it supposes the incessant transformations which that doctrine observes in living organisms to be taking place, not only in perceptible matter, but also in all the planes of an increasingly subtile fluidic matter. Such a supposition carries back the limits of the infinitely small far beyond the boldest flights of the imagination, and we thus recognize that the wonderful ether which bathes all worlds is really the necessary agent of the unity of creation, not only in the infinity of space, but in the infinity of life.

We may add again—once more recurring to the law of the conservation of energy, which is perhaps the sole conquest of science now uncontested—that the application which it undergoes in vital phenomena results in the destruction of energy in its highest modes and is continually reducing it to its least evolved form, namely, heat. We know indeed that the alimentation of animals principally consumes the potential energy contained in food, and resolves itself almost exclusively in the production of heat, and this is an operation which cannot be reversed. Animal life, therefore, plays its part in the essential phenomenon of the retrogression of energy, which epitomizes for us the history of the universe, and it thus largely contributes to hasten the world's end.

We thus see at what a heavy price the material universe must buy its organic life, which is its beauty, seeing that it pays with its very existence. Is it not legitimate to think that this is no useless sacrifice, but that it must contribute to transfer permanently to a newer and more subtile plane that ephemeral life which the universe has purchased with its own ?

We know that the most insignificant material facts are recorded in the invisible ether ; it preserves their image in its unceasing vibrations ; must we not suppose that life itself and, above all, personality, which are the most dearly purchased manifestations of the activity of the universe, likewise persist in the hidden vibrations of a yet more subtile ether ?

We shall not harp upon this theory, which we put forward chiefly to show how the notion of the objective existence of vital force is naturally connected with the conception now held by science of the preponderating rôle played by the ether in the universe. But as this is, from our point of view, a capital question, which so far as possible calls for verification in fact, apart from all theoretical considerations, we shall endeavour in the next chapters to discuss the observations which go to indicate the presence in man of an immaterial, or rather superphysical, element.

CHAPTER VIII.

THE BORDER-LAND OF SCIENCE.

The Higher the Organism, the more Complex is the Etheric Grouping constituting its Life-force. Revival of the Ancient Theory that Various Faculties may be distinguished in Etheric Bodies. Equilibrium of Material Forces undisturbed by the Intervention of the Life Principle. Evidence of the Independent Existence of this Directive Element to be looked for among Certain Mysterious Phenomena. The Difficulty of Proof lies in the Fact that these Phenomena cannot be reproduced at Will. Inquiry hindered by the Apathy and Hostility of Scientists. Even Physics and Chemistry not free from an Illusive Irregularity in their Phenomena. Examples mentioned by Camille Flammarion. Scientists cannot explain Phenomena producible at Will, without the Agency of Certain Hypothetical Elements. Outline of the Plan to be followed in Subsequent Chapters.

We have shown that it is possible to consider life in the infinite manifestations which it assumes as always being directed by a force independent of the matter which it employs. This force itself has appeared to us as being constituted by an etheric grouping of more or less complexity, peculiar to each living organism. In the lower forms of life this grouping differs but little from the first crude beginnings discernible in inert bodies, especially in crystals, but it becomes more and more refined and complicated the higher we ascend in the scale of organisms. First of all, it is the general type of the species of which the members have as yet no distinct individuality, but higher, among the superior animals, it assumes a personality which becomes increasingly definite in character, until finally in the human being it attains the most exalted form that we can conceive.

In these various manifestations the etheric grouping appears gradually to change its nature as it reaches by degrees new planes which are increasingly subtile. It thus reproduces that continuous transition which unites all the organisms of creation despite the fundamental differences distinguishing the great classes into which they are partitioned out.

In its crudest form this grouping simply sustains physical life and determines the morphology of the living organism. In this form it therefore corresponds to the etheric body proper, as conceived by theosophy, of which we here borrow the terminology. There next arises a more subtle grouping in which sensitivity is manifested, while the personality of the organism begins to be faintly outlined; the astral body is becoming more and more pronounced as we rise toward the higher animals. Thus by degrees the plane of intelligence is reached where the mental body appears, first very crude in certain animal species, but attaining its plenitude in man, in whom it is the organ of such lofty faculties of the soul as he alone possesses—for example, the idea of reason, the notion of the infinite, and, above all, of duty and love of self-sacrifice.

This distinction of various faculties resident in immaterial bodies, united by the action of the soul properly so called, of which they are the organs and whose personality they characterize, is one that we have already met with under various names when studying ancient beliefs; it is a distinction revived by theosophy, and one which it would be particularly interesting here to discuss in the name of science. It is, however, evidently impossible to do this under completely satisfactory conditions; for the data afforded by experiment are unhappily not forthcoming. But, without attempting to enter into the distinction of these various planes, we can very well inquire whether the observation of facts does not permit us to conclude, with a certain probability, the existence of a subtle grouping, presiding in principle over physical life and exerting thereupon an influence unlike that of the material forces.

Doubtless we are aware that vital phenomena are

governed by the same unvarying laws as the reactions of inert matter ; we observe that life does not reveal itself to us by any special spontaneity, and yet are we not right in affirming that it belongs of necessity to a plane different from that of the physical forces, since it acts exclusively through their medium, while its intervention never disturbs their equilibrium ? If we therefore represent it by the subtle grouping of which we spoke above, we may say that from birth until death this grouping appears, develops, and disappears without ever leaving its equivalent in the transformations of energy ; and in the same way it is intervening at every moment in the manifestations of sensitive and intellectual life without affecting the material forces present, as it should did it share their nature.

These are doubtless arguments the value of which it is impossible to overlook, but they must fail of their full cogency unless we succeed in some way in isolating this hypothetical grouping, and in showing that although it may remain inaccessible to our senses, it can, in certain exceptional cases at least, reveal itself by some spontaneous action quite different from that of the physical forces, and apparently free from the laws controlling them.

We shall in so doing be called upon to discuss a whole series of mysterious phenomena which, till within a short time ago, remained outside the sphere of positive science, but wherein we may perhaps find the evidence which it were vain to seek in the facts of normal life. Finally, we shall be entitled to conclude legitimately that if this directive element really belongs to a plane other than that of matter, the death of the physical body cannot affect it in its essence.

The scientific recording of facts of this kind would therefore be of inestimable value, but unhappily it is a task involving serious difficulties ; for in the majority of cases there is no possibility of arriving at the negative criterion which positive science is accustomed to look for in observing material facts.

From the very fact that the phenomena observed would seem to attest a certain spontaneity of the etheric

element, it becomes impossible to reproduce them at will. We cannot, therefore, attribute to them rigorous scientific certainty; we must remain satisfied with what one may call historic certainty, based upon the evidence of witnesses whose competence and good faith require to be established.

We are, in brief, advancing into the border-land of science, into those mysterious regions not yet sufficiently explored, where the observer experiences such difficulty in securing exact and uncontested facts. In the face of these accumulated difficulties it is not surprising that, till within the last few years, the majority of scientists preferred to deny these strange phenomena without investigation, rather than make any endeavour to verify their genuineness or seek an explanation of them. This is, indeed, an attitude constantly recurring in the history of science. New discoveries which have been so inconsiderate as to disturb already accepted theories have, as a general rule, had to struggle against the indifference, and sometimes the hostility, of the most respected scientific authorities. It is, nevertheless, the duty of the true scientist to welcome with gratitude the negative fact which shakes his hypothesis, for that fact may open to him new and unsuspected horizons and lead him to a modified theory that is more comprehensive and more exact.

Should the phenomena assume a marvellous form, rendering their explanation more arduous, the investigation of them becomes proportionately more interesting and susceptible of yielding in the future more convincing results, when it shall have proved their reality. This is evidently what the scientist should endeavour to do, taking care at the same time to arm himself with all the safeguards of exactitude and with all the means of observation furnished by science, so long as he does not actually frustrate the production of the phenomenon.

Moreover, it is hardly doubtful that the majority of these phenomena are of a purely natural order, akin to those which science studies elsewhere; and if they at present wear a marvellous character, it is because we are as yet ignorant of the conditions under which they

are produced. But this has always been the case with all scientific discoveries. To have seen a mechanical action transmitted over long distances by the agency of an electric wire, or by wireless telegraphy, would certainly have appeared far more strange to our forefathers than does telepathy to us at the present day.

It is the honour and duty of science to enter with a stout determination upon every problem set by nature, and to recognize that, if every day by ceaseless labour it approaches nearer the truth, it never can possess truth in all its completeness and is condemned continually to rectify the uncertain picture it has formed of it.

On the other hand, it must be admitted that the illusive irregularity which disturbs our investigation of the phenomena of higher life is not peculiar to them, but is to be encountered even in the observation of the material world.

We no doubt imagine that we now hold the fundamental laws of physics and chemistry, because we can see them constantly in operation; yet we often find that nature confronts us with a wholly unlooked-for reaction, which we are afterwards quite unable to reproduce. We indeed admit, without possibility of contestation, that this is due to the fact that our data were more complex than we supposed, and that we were unable to take account of those of which we were unaware. It must not be forgotten that the same answer may hold good of the strangest among the higher vital phenomena.

Physics still presents us with a multiplicity of obscure facts for which we have no explanation, and we should certainly scout their existence did not observation confirm them. We need only recall the internal movements taking place in rigid bodies, mentioned in the last chapter, the unceasing radiation of radium, and numerous other examples in which our science is at fault before the mysteries of nature.

Again, supposing that we attempt the study of atmospheric phenomena, especially of those occasioned by electricity, we encounter reactions not less strange than those of the higher life, and frequently seeming to set

the most well-established scientific laws at defiance. Such is the case, for instance, with the manifestations of so-called globe lightning, which reminds one in many ways of the astral light at spiritistic *séances*; thereto might be added all the extraordinary acts due to lightning in general—the sudden volatilization of metallic objects, the formation of "photographs" of neighbouring objects, which appear, without apparent reason, upon the bodies of persons who have been struck.

"In one case the lightning burns, and its victim goes off in a blaze, like a truss of straw; at another time it will reduce the hands to ashes, but leave the gloves untouched. Here it welds together the links of an iron chain; there it kills a sportsman without the gun which he held in his hand going off. It will melt an earring without scorching the skin, strip a man naked without doing him any hurt, or perhaps it may even be satisfied with filching hat and shoes from him; it will photograph on a child's chest the nest which he was taking in a tree-top when it was struck; it will gild silver coins in a purse, electroplating the contents from one compartment to the next, without scathing the possessor. It can instantly demolish a six-foot wall, or strike an ancient castle, or it can strike a powder-magazine without causing it to explode." [1]

These examples, which might easily be multiplied, are sufficient to show how unaccountable is the action of lightning, a thousand times more disconcerting perhaps than is the action of psychic force. We are unable to supply any scientific explanation, although we have to deal with a mode of energy which we considered fairly well known to us, and with an action exerted in the domain of inert matter. Such facts are not nowadays denied, although their authenticity is guaranteed merely by the evidence of witnesses.

But even when we confine ourselves to phenomena which it is possible to reproduce at will, we find that the final explanation advanced by science depends upon the supposition of invisible elements, such as molecules, atoms, and corpuscles, material or etheric, and it is the complex working of these hypothetical elements

[1] Camille Flammarion, "L'Inconnu et les Problèmes Psychiques."

which bestows form upon material bodies and determines their reciprocal reactions. In fine, we are always reduced to viewing the material world as governed by invisible elements which become stronger, the smaller they are. We cannot certainly observe them directly, and yet we admit their existence as resulting necessarily from ascertained facts. Are we not therefore justified in resorting to the same method and in admitting the same hypotheses when we attempt to explain the higher life, seeing that in either case nature denies us direct perception of the invisible elements postulated in the study of the slightest phenomenon ?

We do not, therefore, think it possible for science to refuse all inquiry into mysterious facts the study of which is calculated to throw light upon the absorbing problem of man's future destiny. We shall treat of them as best we can in the following chapters. We intend first to summarize the facts best established in this department of research, such as the radiation of the odic fluid, the possibility of which can no longer be denied in principle, now that we know of the general radio-activity of matter, as we remarked above. Subsequently we shall attempt to show how this notion may help in the explanation of other extraordinary facts, which it is exceedingly difficult at present to deny absolutely, albeit the authenticity of certain cases is still the subject of legitimate doubt.

Such a phenomenon is the externalization of the odic fluid, which can transmit to a distance a sense-impression, an effort, or even an act, of reasoning perceptible to some one of our senses, as in telepathy. Then we have materializations, doublings of personality, intelligent communications appearing to come from invisible beings, or even from souls of the dead.

In the case of each of these phenomena we shall endeavour to show how science can view it to-day, and whether by any possibility it can be submitted to the decisive test of experiment, after which it might rank among well-ascertained scientific facts.

As far as concerns the problem of survival, and particularly that of our future destiny, this experimental

study of the nature of the human soul will furnish us with many precise data, and elements of high probability which were so far lacking ; we must, however, not hide from ourselves that it cannot result in absolute scientific certainty, and it would be expedient to supplement it with a renewed methodical study of all the facts which can shed light upon the obscure question of man's destiny, considered only in the present life.

We should inquire, for instance, whether from birth man's career is not already to a certain extent predestined, as is believed by the partisans of religious fatalism and scientific determinism ; and in this case we should ascertain whether no sign of this original influence is visible. The ancients thought that such signs were discernible in the combined action of the planets presiding over birth, and a new school claims to-day to have scientifically revived this doctrine, caring little for the apparently justified discredit into which astrology has long fallen.

Is it not possible to throw some light upon the problem of pre-existence, by studying infant prodigies instinctively possessed of certain exact knowledge, and able to perform certain acts which they have never learned ? Should we not inquire whether this is not an exceptional manifestation of a species of memory of a past existence ?

The same question indeed arises in cases of doubled personality, when memories and ideas present themselves which were absolutely unknown to the normal consciousness, and the formation of which during the present existence is particularly difficult to explain.

If the astral body is able to introduce into the body which it animates an impress sufficiently precise to determine the course of its present destiny, is it not possible to discover some manifest proof of its mysterious intervention ?

We shall finally come to investigate the much-despised conceptions which are founded upon the study of some particular but apparently insignificant characteristic, such as the form of the writing, the features of the face, the lines on the hand, etc., and we shall inquire whether

the contempt into which they have fallen is entirely deserved; whether in their whimsical complexities there is not some faint ray of truth which might be of some assistance in throwing light on the difficult problem that perplexes us.

All these are obscure questions upon which we shall never possess absolute truth, unattainable in facts of a moral order. But we must not forget that they may furnish an element of the required solution, and on this account they assume an interest which forbids our contemning them. Doubtless the day will come when science will no longer refuse to make them the subject of exact inquiry.

CHAPTER IX.

THE ODIC FLUID.

Lack of Direct Proof of the Existence of the Fluidic Body. Odic Radiation Imperceptible to the Majority of Men. Believed in by Maxwell, and afterwards by Mesmer and de Montravel. The Odic Fluid as described by Deleuze. Researches of Drs. Charpignon and Despine. Experiments by Baron Reichenbach, who applied the Name *Od* to this Radiation. The Difference between the Odic Radiations from the Right and Left Sides. How the Odic Fluid is transmitted. Not to be confounded with the Magnetic Fluid. Reichenbach's Efforts to bring the Odic Fluid to the Perception of Ordinary Men. His Conclusions accepted by Wharley, Chazarein, Décle, Baréty, and De Rochas. Description of the Fluid as observed by De Rochas. Its Objective Existence not yet a Scientific Certainty. Recent Experiments in which Light Objects are moved apparently by Odic Radiation. Baraduc's Theory. Answer to the Objection that the Effects attributed to *Od* may be due to Heat. Radiations from Bodily Organs photographed. Experiments by Charpentier and Blondlot and Maxwell.

As we have just conceived it, the fluidic body is compounded of a number of subtile elements which are doubtless arranged in a series of aggregates, each operative in its own particular domain and bringing about in the animal organism all those mysterious actions which matter is incapable of performing alone. It governs organic life, receives sensory impressions, and transmits intellectual conceptions, yet in all its manifold manifestations it remains unable to reveal itself directly, but is throughout confounded with the physical body, from which it can escape only at death. We are consequently always confronted with a fundamental difficulty in endeavouring to prove its distinct existence.

Howbeit, if direct observation is not within our power, we should seek, if possible, to gather indirect evidence of the action of the fluidic body in certain manifestations which are perceptible, and thus win support for the proposed theory.

These manifestations must themselves vary according to the particular faculty involved, and according as we have to deal only with sensitivity or with various modes of intelligence itself. The investigation of these dissimilar phenomena will have to be carried out under entirely different conditions, which will therefore entail different degrees of certainty in the observations made and in the conclusions based thereon.

The most elementary manifestation of all is that particular kind of radiation which has been termed the odic fluid. To it we shall devote the present chapter, reserving the more complex phenomena for the remaining ones. This fluidic radiation reveals the action of the etheric body, especially in its capacity for maintaining organic life. It takes place normally outside the cutaneous envelope of the body, and is concentrated chiefly at the sensory organs and extremities, especially the fingers, head, and hands.

It is constantly present in normal life, and its existence would therefore seem easy enough to prove. Unfortunately it is imperceptible to the majority of men. Under ordinary conditions it can be seen only by a few persons gifted with a special visual sensitivity permitting them to discern the glow by which it is accompanied. Only in exceptional cases can it be emitted with sufficient intensity to affect normal senses. As a result, its existence is still a contested matter.

However that may be, this mysterious fluid, which was already known in antiquity, has in our day been made the subject of much research. We have succeeded in establishing its fundamental properties and in sometimes demonstrating its presence by an external action dependent upon it, even in cases where it was directly invisible. Upon these investigations we shall not here dwell. They will be found epitomized in the learned works of M. de Rochas, and it is thence that we have

borrowed most of the details which follow. We summarize them only, our wish being rather to emphasize the conclusions which have been based upon them.

In 1679 a Scotch doctor, William Maxwell by name, published a work on "Magnetic Medicine," wherein he described the properties of certain material rays emitted from the human body, in which, he says, "the soul operated by its presence, giving them energy and power to act."

A century later, an Austrian doctor, Anton Mesmer, taking up Maxwell's idea, declared the existence of a fluid diffused throughout the universe, acting upon the animal body and penetrating even into the nervous tissue. In the human body it manifested properties analogous to those of the magnet. He remarks that the human body presents contrary poles, which can, to use his phrase, be "communicated, changed, destroyed, or increased, and can display the phenomenon of inclination. The attractive or repellent action emanating from them is operative at a distance, even upon inanimate objects, the presence of which may strengthen and propagate it. It is accompanied by the emission of a matter so subtile as to penetrate all bodies without noticeable loss of activity."

Owing to these analogies, Mesmer proposed to name his new fluid animal magnetism, although he was aware that in other respects it differed essentially from the fluid of natural or artificial magnets.

An artillery captain, Tardy de Montravel, who lived at the end of the eighteenth century, wrote an essay on "The Theory of Animal Magnetism," directly inspired by Mesmer's ideas. He remarks that there are grounds for distinguishing in man a subtile body formed from this magnetic fluid, a kind of material soul controlling the body. In support of this hypothesis he remarks that every act of volition is necessarily accompanied by a varying expenditure of energy, which must be conveyed by the soul to the physical organs involved, in order to supply them with the requisite resistance, and he concludes that the magnetic fluid alone is able

to furnish this supply. He further observes that all psychics are agreed that, in the hypnotic state, they acquire the vision of this fluid, which they can see radiating about their magnetizer.

These observations were taken up and expanded by Deleuze, an assistant naturalist at the Paris Museum, and in 1813 he published " A Critical History of Animal Magnetism," which was much esteemed.

" Most psychics," he says, " perceive a bright luminous fluid surrounding their magnetizer, and given off with especial intensity from the head and the hands. They recognize that he is able to concentrate this fluid at will, direct it, and impregnate various substances with it. Many see it, not only when actually in a state of somnambulism, but also during several minutes after their awakening; they find it to possess an agreeable odour of its own, which gives a peculiar flavour to water and food. Some persons perceive the fluid when they are magnetized, although they are not in a state of somnambulism. I have come across people who perceived it while magnetizing, but this is extremely rare. Most somnambulists believe that this fluid can be concentrated in a reservoir, that it exists in the stars, and that the will of the magnetizer, when assisted by a movement of the hand repeated several times in the same direction, guides the fluid and gives it a definite motion. As I have obtained these data from all the psychics whom I have consulted, and as magnetizers in all countries have obtained the like, I am compelled to admit the existence of a magnetic fluid." [1]

These observations were confirmed by other experimentalists, particularly Dr. Despine, of Aix-les-Bains, and Dr. Charpignon, of Orléans. Both of these doctors carried out separate researches and summed up their results in two works, published in 1840 and 1843, respectively.

Dr. Charpignon in particular observes that certain psychics perceive, in addition to the odic fluid, a special glow surrounding objects charged with electricity. However, they clearly distinguish these two radiations, and never confound their respective fluids, which fact would point to a corresponding difference in their nature.

[1] Deleuze, " Histoire Critique du Magnétisme Animal," Tome I., p. 81, quoted by Rochas, " Les Frontières de la Science," Paris, 1902.

Dr. Despine was moreover able to generalize this observation by demonstrating that certain psychics could determine the nature of various metallic objects without requiring either to see them with the eyes or touch them with the fingers. He hence concluded those metals to be surrounded by a peculiar glow of their own. He also remarks that contact with these objects causes a particular, clearly marked impression upon somnambulists, and that this varies according to the character of the metal. Gold, for instance, possesses with them a peculiar aptitude for alleviating neuralgic pain.

The principal researches aiming at establishing the existence of animal magnetism are due to Baron von Reichenbach, who published in 1849 and 1864 two important papers upon the subject. They will be found condensed in the works of M. A. de Rochas. As the result of a great number of methodically performed experiments covering several years, Baron von Reichenbach came to the conclusion that the animal organism emits a continuous radiation, the intensity of which varies, however, according to the state of health, the physical and moral conditions, the action of external surroundings, etc. Daylight increases the radiation, as do food and physical activity ; it diminishes at night, during sleep and periods of hunger ; generally speaking, it undergoes regular periodical fluctuations in the course of every twenty-four hours. It is perceptible only to psychics, or " sensitive " persons, and spreads over almost the whole surface of the human body, which it renders luminous ; it is most concentrated on the hands, and presents its maximum intensity upon the palms at the finger-tips, in the eyes, in various parts of the head, at the pit of the stomach, etc. Tongues of light like bright flames stream in straight lines from the finger-tips, eyes, nostrils, and ears.

Reichenbach applies the name *od* to this radiation in order to distinguish it from already known fluids ; it is the manifestation of a force dividing the human body into two regions displaying opposite properties,

much in the same way as the poles of a magnet. The right side, as a rule, gives off a radiation blue in colour and having a cool feeling to the touch, whereas the left side gives off a warm red flame. There is a similar contrast between the two poles of a magnet, the blue cold flame characterizing the north pole (generally called the negative pole in non-French countries, while in France it is known as the positive pole), whilst the red, warm flame, on the contrary, characterizes the south pole. By analogy Reichenbach transferred this positive and negative terminology to the two contrary fluids into which he divided odic radiation; the blue fluid he called the negative od, the red fluid the positive od.

We have just noted that the former is especially found upon the right side of the human body, the latter on the left side; this polarity of the two opposite sides of the body is, however, by no means absolute. Often enough it happens that the corresponding flame-colours are reversed according to the state of the subject, the left side becoming blue and the right red.

The odic fluid is transmitted by conductivity through various material bodies, solid, liquid, or gaseous. This transmission generally takes place by contact, and also under conditions as yet imperfectly determined. But it may be laid down that those conditions vary greatly according to the nature of the bodies employed; as a rule, the greater the cohesion of the body, the better its conductivity. It must be noted, moreover, that the odic state thus set up is dissipated with great rapidity, as soon as communication with the fluidic source is interrupted.

As to the speed of odic conductivity, it is inferior to that of electricity, but superior to that of heat, which goes to prove that we are dealing with distinct phenomena. Reichenbach also states that "sensitives" can always clearly distinguish the other fluids known in physics, owing to the feelings which they experience, and concludes that we cannot confuse the od with any of them. He remarks, for instance, that most sensitives can support without difficulty an electric discharge of great intensity, while the slightest odic stimulation

brings about a very marked reaction. In the same way, objects subjected to heat may from the odic point of view appear more cool than when they were actually cold.

As for magnetism, it undoubtedly presents many close analogies with the od. Both fluids possess the distinction of contrary poles, but it must be noted that whereas the odic fluid may be transmitted to and accumulated in all natural bodies, magnetism applies only to an exceedingly restricted number of bodies. On the other hand, although the positive od, with its blue cool flame, almost always goes with the north pole of the magnet, it sometimes happens that it will detach itself thence and concentrate itself upon the contrary pole—a strange inversion which again demonstrates the difference between the two fluids, magnetic and odic.

Even so brief a summary suffices to show the interest attaching to the curious conclusions drawn by Reichenbach from his experiments upon the radiation of odic fluid, which he studied in the cases of somnambulists and sensitives. But we cannot forget that the objective reality of this fluid is still subject to doubt, seeing that the facts adduced are beyond the perception of the majority of mankind. In order to overcome this troublesome objection, Reichenbach neglected no opportunity of discovering whether the action of the od might not be made visible to any one whomsoever—for instance, by its bringing about the displacement of some material object. He had already noted that certain minute objects such as crystals, small metallic rods, or little glass discs, if previously charged with odic fluid and held between the fingers, acquired a rotatory movement of a peculiar kind, due apparently to some force emanating from the fingers. The direction of this rotation is determined by the repellent effect of that side of the human body which is odically isonomous to them. The same effects can be obtained when employing small magnets, and in this case the supposed odic action may even counterbalance the magnetic attraction.

Reichenbach believes that the same explanation

covers all apparently causeless movements of objects when brought in contact with the hands or into their vicinity. Thus he explains table-turning ; and he even adds that it is possible to predict the conditions under which such a movement will take place, from the direction of the odic current, as determined by the way in which the experimentalists have linked their hands when forming a chain about the table to be raised.

Reichenbach's observations and the astounding facts which he proclaimed were received by the scientific world with lively incredulity. This has not entirely disappeared to-day. Nevertheless, many scientists of repute did not hesitate to repeat his experiments as soon as they were able to secure suitable subjects, and they were enabled to verify the reality of the facts alleged. We shall not here recall the names of all the experimentalists who devoted themselves to studying the matter during the second half of the nineteenth century, not only in France, but in England. They will be found recorded in M. Rochas's work already cited. Among English men of science should be remarked the famous electrical engineer, Fleetwood Wharley, who declared on May 5, 1869, before the Committee of the London Dialectical Society, that he had during his experiments with Mrs. Wharley collected " proofs both numerous and decisive of the existence of odic flames emanating from magnetized bodies, crystals, and human beings." Among French experimentalists we shall first mention Drs. Chazarein and Décle, who endeavoured to ascertain the existence and direction of odic currents in the human body. Then comes Dr. Baréty, who rediscovered the facts already observed by Reichenbach, of whose experiments he was only vaguely aware ; and finally, M. de Rochas, whose name will always remain associated with these delicate investigations ; he was both masterly and patient in his handling of them, and he pursued them with all the scientific exactitude of which they are capable.

M. de Rochas was in 1893 enabled to experimentalize with a young man who possessed in a high degree the faculty of discerning the od in broad daylight, so soon

as his eyes had been brought into a certain condition of hypnosis. In this state the eye displayed an extra-physiological vascular erethism, as was discovered by the ophthalmoscope. As this subject was a draughtsman by profession, he was able to fix his impressions upon paper, and thus to furnish far more exact records than the more or less vague verbal descriptions with which experimentalists had so far been compelled to content themselves.

It was M. de Rochas's desire to control the statements of his subject by performing a series of experiments in one of the laboratories at the Ecole Polytechnique, but these were unhappily discontinued owing to superior orders. He was, nevertheless, able to ascertain that he was dealing with a real phenomenon and not merely with a subjective impression. His researches led him to the interesting conclusions which we are about to outline.

The effluvium is a real phenomenon perceived by means of the retina. It presents certain general and co-existent characters, namely, its flame-like form and its localization at the extremities of long-shaped bodies. The length, intensity, and colour of the flame are, on the contrary, variable elements according to the subjects, and depend upon the state of hypnosis into which they are thrown. Suggestion may also to some extent vitiate the description of the effluvium.

Magnetization will induce effluvia at either extremity of a piece of iron, whether it be in the shape of a straight bar or of a horse-shoe. The colour of the poles depends upon the direction of the current, and is the same as the magnetizing pole placed in contact. The effluvium apparently lasts as long as the magnetization. It is rapidly dissipated in the case of soft iron, whereas with steel it is permanent. Observation goes to show that the effluvia behave in draughts as would gaseous flames under similar conditions, and it must therefore be concluded that the gaseous molecules of the atmosphere are to some extent affected by the odic current ; which fact explains why the effluvia are sometimes manifested by a glow perceptible to the eye.

As may be gathered from the preceding references, the various scientists who have undertaken to investigate odic fluid have all been led to admit the objective existence of a radiation peculiar to living organisms. At the same time, they have had to acknowledge that it is perceptible only to persons either normally gifted with peculiar sensitivity or, preferably, thrown into a state of hypnosis. Although the agreement of these observers does certainly lend a value to their common conclusions, it must not be forgotten that those conclusions rest exclusively upon evidence which is always subject to suspicion. It still remains to corroborate them by some experimental method free from possibility of dispute. The moving of external objects would no doubt furnish us with the proof requisite, and we have, indeed, already seen how Reichenbach succeeded in causing objects held between the fingers of subjects to rotate. As, however, the movements obtained depended upon manual contact, there is always reason to fear that the imperceptible movement of the subject's hand may have induced the mechanical action observed. To furnish decisive proof, we require movement at a distance.

Various experimentalists have busied themselves with this question, and more especially Dr. Baraduc, who, upon the pattern of Abbé Fortin's magnetometer, constructed a biometer which, he asserts, allows not only of his demonstrating this vital radiation, but also of his measuring its intensity, which varies according to individuals.

The essential portion of the biometer is an annealed copper needle, which is held horizontal by a fine untwisted silk thread attached to the middle. This permits of its oscillating freely when subjected to the action of external forces, however minute they may be. The whole apparatus is enclosed in a glass cylinder so as to do away with all mechanical influences such as might arise from the agitation of the air.

An experiment consists in bringing the extremities of the fingers of the open hand within a short distance of the glass wall of the cylinder. The hand should be

directed toward one of the two ends of the needle. When it has been held for some minutes in the position indicated, a slight movement of attraction or repulsion will be observed at the point in question.

These movements of the needle are ascribed by Dr. Baraduc to the vital radiation. It is true that they can be observed in all experiments, and it may be briefly said that their direction and degree vary according to the subject, his health, his physical condition, and especially his moral condition.

If, as has been done by M. Baraduc, the two hands are simultaneously brought into proximity to two separate instruments, it will as a rule be observed that the two deviations possess different values and sometimes opposite signs, the right hand, for instance, producing attraction and the left repulsion, or *vice versa*.

Similar observations have been recorded by other experimentalists, among whom are Drs. Joire and Geoffriault. The latter somewhat modified the structure of Dr. Baraduc's biometer, reducing the apparatus to a single piece of straw suspended from a non-twisted silk thread, and he ascertained that the straw was quite as obedient to the action of the vital fluid as was the copper needle. Dr. Baraduc, taking all these observations together, sees in them the manifestation of a continuous exchange of forces going on between the living organism and its etheric surroundings; he views it, in fact, as a kind of odic respiration supporting the life of the astral body, just as gaseous respiration supports the life of the physical body.

This curious theory may be found expounded at length in the learned work which he has published, entitled "Vibrations of Human Vitality." [1] It is no doubt a bold conception and one liable to be disputed. But, restricting ourselves especially to the odic fluid, we think that it is impossible to deny that the evidence adduced certainly tends to establish definitively its objective reality.

It must not, however, be forgotten that it still remains to be proved that the deviations of the biometric needle

[1] Paris, Baillière, 1903.

are amenable to no other explanation. It has been remarked that, despite the precautions taken to isolate the instrument, the needle might be influenced by the mere caloric radiation of a heated object placed in its vicinity. We may therefore wonder whether in bringing his hands close to the apparatus he does not exert an analogous influence quite independent of all odic action. It may no doubt be replied that the temperature of the human body generally remains constant, and that the variations in the deviation of the biometric needle are far in excess of any possible rise and fall of bodily temperature. If, therefore, any part of the variation of the needle is due to heat-radiation it can only be a minute fraction ; and all the rest must be really brought about by the vital radiation. But this argument somewhat loses its cogency when we refer to the observations taken by Dr. Branly. It will be seen from his report published in the " Bulletin of the Institute of General Psychology," second year, No. 2, that he never obtained such wide deviations as those which were daily recorded by Dr. Baraduc. This fact may no doubt be due to the small number of experiments, to the peculiar, perhaps over-circumspect, disposition of Dr. Branly's subjects, and probably to the excessive inertia of the apparatus employed. But it must be admitted that hitherto the biometer has not yielded in support of the theory of odic fluid that absolutely decisive proof which we require.

Such precise proof has been sought by means of photography, and in this direction numerous and by no means sterile attempts have been made. They have at least resulted in a contingent of new and interesting facts, even if they have not furnished the irrefragable proof that can set all objections at defiance, and which we shall never, perhaps, attain.

It has been demonstrated that many persons have only to place their hand in the darkness within some distance of a sensitive plate (dry or wet), when certain characteristic radiations will be found recorded thereon, easily distinguishable by their curvilinear form from the straight lines and acute angles which would under

similar conditions be obtained by an electric current. Dr. Baraduc, who still pursues his investigations with ardour and enthusiasm, has, on his part, obtained some particularly interesting impressions by placing dry plates wrapped in black paper in contact with some important organ of the body, such as the head, the heart, or even the spleen. The resulting pictures are formed, as the case may be, either of luminous spots or of more or less fine lines interlaced ; they vary, he says, according to the moral condition of the subject, and he therefore considers that they are a visible transcription of the preoccupations by which he is moved.

Obviously, this would supply a very striking proof of the activity of the astral fluid ; it would go to show that even thoughts themselves may be recorded in the immensity of the ether, just in the same way as apparent phenomena, and that they are hence amenable to the same law of indestructibility which governs the manifestations of the universe. The authenticity of these pictures is, however, still a matter of dispute.

In the first place, it has been objected to the use of wet plates that the mere handling which they undergo in the developing bath might suffice to produce similar impressions upon a plate which had not been exposed at all, and consequently only the images produced upon dry plates can be retained as genuine. This, indeed, is the method pursued by Dr. Baraduc, but it has the drawback of yielding more frequent failures, and rarely succeeds except with very sensitive subjects ; so that it records rather the abnormal externalization of the astral body than the regular radiation of odic fluid, and it is consequently liable to all the objections which can be made against a single experiment not renewable at will.

What we require therefore is a peculiar reagent suited to the recording of these obscure radiations, and permitting of our obtaining regular impressions under the conditions of normal life. This is a preliminary piece of research upon which experimentalists should concentrate themselves if they desire to obtain indisputable scientific proof of the existence of an astral body.

We must not omit to mention the investigations at present being carried out by Dr. Charpentier, for the results which they have yielded have already caused much sensation in the scientific world. By using a simple cardboard screen covered with a thin layer of phosphorescing calcium sulphide, and by bringing it, in the dark, successively into contact with various organs of the body, Dr. Charpentier has succeeded in showing that the screen assumes intensified brilliance when the organ under observation is active, whether it happens to be a muscle which performs some mechanical effort, or else a lobe of the brain affected by the work of thinking. In either case the resulting illumination may be explained by the emission of odic rays, which would therefore be identified with the N rays studied by Dr. Blondlot, and would lend scientific confirmation to the idea of that necessary repercussion which the acts of organic and intellectual life arouse in that invisible world whose existence we suspect behind the veil of matter.

We must not conclude without reference to the curious investigations reported by Dr. Maxwell in his interesting work on " Psychic Phenomena," [1] for they form a contribution of great value to the study of odic radiation. They were carried out under the conditions of ordinary scientific observation, without recourse to the intervention of hypnotized subjects, and they emanated from an experimentalist who has made it his rule to accept only indubitable facts, and hence to reject all those in which suggestion can have played even the slightest part.

Dr. Maxwell has succeeded in demonstrating that it is possible for any observer whatsoever to obtain a certain perception of the odic fluid by operating with diffused light. If, he says, an object of dark hue, the back of a chair for instance, be placed before a window so as to hide only a part of it, and the hands wide open be stretched toward the dark screen thus formed, the palmary surface being turned toward the breast, care being taken first to bring them together to the point

[1] Paris, Baillière, 1904.

of contact and then to move them apart very slowly, one perceives a kind of greyish exhalation which seems to pass from one hand to the other, uniting the corresponding fingers.

This radiation is perceived by almost all observers even when not forewarned, and this disposes of all possibility of suggestion. As it persists for some time it cannot be explained away as a subjective impression resulting from contrast. Dr. Maxwell thinks that in all probability it is a real phenomenon affording a fresh objective manifestation of the activity of the odic fluid.

CHAPTER X.

THE EXTERNALIZATION OF THE ETHEREAL DOUBLE.

The Link between Soul and Body. Visible Manifestations of the Ethereal Body. Externalization by Telæsthesia and by Materialization. Difficulty and Danger in studying the Astral Body. Only Exceptional Persons suitable as Subjects for Experimentation. Pioneer Investigators. De Rochas on "The Externalization of Sensitivity." Bewitchment by means of a Simulacrum, or "Mummy." Sensitivity in the "Mummy" Analogous to Rapport during Hypnosis. Manifestation of the Ethereal Body by so-called Spirit Rapping. Levitation. Bilocation. Luminous Manifestations. Materialization. The Spiritistic View of Spirit Rapping and Oral or Written Messages. Wonderful Powers of Mediums under Hypnosis. Present Impossibility of proving the Genuineness of Spiritistic Phenomena. The Author proposes a Dematerialization Experiment that would be Conclusive.

THE etheric aggregate, the existence whereof in the human body we have been endeavouring to ascertain, forms, according to theory, the necessary link between the immaterial soul and the physical body. During life it remains attached within the body, which it animates, permeating all its parts. It is, however, more especially concentrated in the brain and in the network of sensory and motor nerves, the activity of which it keeps up; it subdivides itself in order to penetrate all the organs of the body, whereof it would seem to espouse the outward form; whence the name "fluidic double," by which it is so often designated.

In normal life the double manifests itself externally by the odic radiation which we have just discussed. But it also acts outside the physical body by giving rise to more complex manifestations involving various faculties of the soul.

In certain special cases it can escape almost completely from the body, and, to use the now accepted term, *externalize itself*; it can reveal its presence by phenomena visible to all, and the investigation of those phenomena acquires particular interest as regards the demonstrative proof of the existence of this hypothetical aggregate.

In the most usual manifestation the fluidic double carries with it the sensitivity of the subject, who no longer feels any impression in his physical body, now become perfectly inert; yet the complete annihilation of this faculty does not invariably result, for the subject may, on the contrary, continue to feel every action exerted outside himself upon the invisible element thus detached. In that case we have to deal with externalization of the sensitivity—telæsthesia—which regularly accompanies the beginning of such phenomena, and can nowadays hardly be denied absolutely, for it has been observed by numerous experimenters. It has been well investigated by M. Rochas.

In the next stage the etheric body is able to display mechanical and physical properties of the most extraordinary character, which at the first glance would seem to be in contradiction to the most certain among scientific laws. The majority of observers declare that they have noticed sudden movements taking place without apparent cause, inexplicable luminous formations, and occasionally even materializations of objects, which suddenly appear as if they had been brought by some invisible hand, or had been created on the spot. Sometimes it has been possible to watch the formation of a phantom exactly reproducing the external appearance of the medium's physical body. But this is not all; for, inexplicable as they may be, these purely material phenomena do not at all appear to exhaust the astral activity; if the separation from the body be carried far enough, a fresh stage may be remarked involving manifestations of a higher order still, affecting the intelligence itself, and showing that it also uses the fluidic aggregate as its agent.

As we have already mentioned, it is possible to obtain rational communications, deliberate answers to

questions, even though put only mentally, just as they might be given by some invisible respondent gifted with the faculty of reading thoughts. Sometimes this interlocutor has apparently become materialized into a phantom, and has attained to the consistence of a living being. It is obvious how great an interest attaches to proving the authenticity of such extraordinary phenomena; for, should it once be quite positively established, it would prove decisive in the eternal discussion concerning the nature of the human soul; and as that is the subject of our essay, we have made a point of summarizing the observations directed to that end, without, however, forgetting the reserve which they still necessarily involve.

First, it must be acknowledged that if we already encountered difficulty in attaining certainty when investigating the odic fluid, which is nevertheless as uninterruptedly constant as life itself, this difficulty is increased a hundredfold when we come to study the astral body, since in normal conditions it is well nigh impossible to find it sufficiently isolated.

We know, to be sure, that the sleep of living creatures is always accompanied by the loss of consciousness and by a marked enfeeblement, if not entire annihilation, of the sensitivity of the physical body. This phenomenon, which believers in an astral body readily explain as being due to a momentary withdrawal of a part of the fluidic element, should furnish an excellent occasion for verifying its existence. But, unfortunately, this withdrawal is always essentially precarious, and with the slightest external stimulus sensitivity and consciousness reappear together, so that we are robbed of all power to verify the doctrine in the observation of normal life.

Let it be added that experimental inquiry may often entail painful results, sometimes deleterious to the health of the subject. It has, therefore, been proposed that animals should be employed in carrying out the methodical researches necessary to determine the nature of the connection between the astral and physical bodies. In that case it would be requisite to have recourse to clairvoyant psychics capable of discerning the externalized astral body.

Whatever may be the future use of this method, the experiments so far carried out have always been upon human beings. They have, as a rule, been effected upon certain exceptional individuals endowed with a particular temperament involving an increase in the intensity of their odic effluvia, which tend thus to withdraw a more or less important part of the fluidic body beyond the material body. It might be said that these subjects are affected with a species of astral incontinence, increasing under the influence of hypnosis.

The hypothesis of an odic efflux furnishes us, indeed, with a ready explanation of all the recorded phenomena. The anæsthetized psychic is one who has externalized a portion of his fluid, and this has become confounded with that of his magnetizer, from whom it henceforth receives all the impulses it is capable of receiving. In like manner the spiritistic medium, who transmits communications of which he has no consciousness, has also allowed a portion of his astral fluid to escape, and this can then manifest a certain intellectual activity without his being aware of it.

If it is desired to support this general explanation by more precise observations—if it is desired for instance to obtain an external localization of the sensitivity—a new selection will have to be made. Only the best trained subjects can be retained, and these will have to be rigorously selected out of a class which is in itself exceptional. The choice is especially difficult to make when a realization of the more delicate phenomena is aimed at, such as luminous apparitions, or materializations accompanied by intellectual manifestations; for they can be obtained only from certain known subjects, to whom all experimentalists are obliged to have recourse. We may readily see how restricted becomes the field of possible observations and also the power of the conclusions to be deduced therefrom.

Yet they cannot legitimately be rejected, for the history of the past holds numerous examples upon record, and present experience gives to these a fresh probability, showing as it does that analogous phenomena may still quite possibly be realized. During the last thirty

years eminent scientific men, taking little account of jibing criticisms, have devoted themselves to the study of this attractive but arduous problem, and, in France as well as abroad, they have at last succeeded in establishing some of the facts with a probability approximating to certainty. Among the foremost in France as pioneers we should especially mention Dr. Richet and M. de Rochas, who have handled these difficult matters with meritorious courage and freedom from bias, always having a care for scientific precision.

Their combined efforts have had the effect of shaking the prevalent prejudice, and specialists in mental disease, in their pursuit of the study of hypnotism, have confirmed the exactness of their observations, in principle at least. Hypnotism has now won scientific recognition, and is represented in France by three great schools, each directed by scientists of high standing, which, though they may yet differ as to the explanation to be given of its mysterious phenomena, agree, nevertheless, in asserting the objective reality of most of them; whilst latter-day medicine no longer hesitates to regard magnetism as a highly efficacious therapeutic agency which it was wrong to have despised.

We imagine that it is no longer permissible to deny the reality of such phenomena *a priori*, although we quite admit that in a great number of cases it is still open to scientific objections. But, since it is impossible for us here to go into all the details which a complete discussion would entail, we shall limit ourselves to noticing in principle the main observations to be gathered from the different orders of phenomena investigated, and we shall refer the reader who is desirous of studying the problem in greater detail to the special publications so numerous nowadays.

These singular phenomena, which show sensitivity to be a property essentially distinct from the physical body, which in itself is inert like all matter, have been made the subject of special inquiry by M. de Rochas, who has formulated the laws governing them, in his interesting work on "The Externalization of Sensitivity."

" After the first passes," he tells us, " the sensitivity of smell and that of the skin disappear, and the subject may be pinched, pricked, or even burned, and ammonia can be placed beneath his nose, without his noticing anything, but he continues to hear and to see.

" After a certain lapse of time, variable not only according to the subject, but also according to the character of the sensitivities, these latter reappear under a different form, now being monopolized by the magnetizer and those whom he has charged with his fluid. Moreover, the sense of touch, instead of being resident as usual upon the surface of the skin, now spreads beyond the body according to definitely ascertained laws.

" Finally, the memory, after having gradually lost hold upon recent facts, recurs to those of an earlier date, and ends by also becoming ' specialized ' for the magnetizer, in the sense that the subject forgets everything, family and friends, and henceforth recognizes but two persons in the world, the magnetizer and himself. What is more remarkable still is that the subject, despite all this, retains his intelligence and the recollection of his own language, so that he continues to reason and to speak just as if he were in a waking state.

" At the beginning of externalization a light mist forms about the body, perceptible only to clairvoyants, and this by degrees condenses and becomes more brilliant, finally assuming the appearance of a thin layer three or four centimetres from the skin and following all the contours of the body.

" If the magnetizer acts upon this luminous layer in any manner whatsoever, the subject experiences precisely the same sensation as if the action were exerted actually upon his skin, but he feels nothing or next to nothing if it is exerted elsewhere. He also feels nothing unless the action emanates from a person *en rapport* with the magnetizer. Should magnetization be carried to a still higher degree, a series of equidistant layers, six or seven centimetres apart, double the distance of the first layer from the skin, forms itself around the subject, who is sensitive to touch, pricking, or burning only upon these layers, which occasionally succeed one another to a depth of from two to three metres and interpenetrate and intercross without becoming modified in any appreciable manner, their sensitivity decreasing in proportion as they are farther removed from the body. After a certain lapse of time, which may vary, but generally after the third or fourth lethargic phase, the concentric layers manifest two maxima of intensity, one upon the subject's right side and one upon his left, and two poles, as it were, of sensitivity are there formed."

If within the field thus determined be introduced material objects, as, for instance, a glass of water, it will be found that they become charged with the subject's sensitivity, which they may for some time

retain, even when withdrawn beyond the sensitive layers. If the sensitized liquid be touched ever so lightly, this is felt by the subject, and he experiences precisely the same sensations which he would in the normal state from direct contact. The liquid has, to use the expression of the ancient alchemists now revived, become his "mummy," and in it he concentrates all the sensitive part of his being.

This curious experiment realizes, in a way, the old practice of bewitchment by means of a simulacrum (*envoûtement*), and shows that it was no mere figment of the disordered imagination of past ages, and it ought henceforth to be retained in support of the teaching of ancient schools. We may remark that this experiment holds good with other substances besides water; generally speaking, with all such as store up odours—for example, liquids and viscous bodies, and in certain cases iron and silk can serve as mummies. We have, moreover, shown in a passage quoted from Deleuze that he also had remarked this externalization of the sensitivity into foreign bodies. This localization may occasionally affect another sense as well as that of touch—for example, hearing and smelling; and M. de Rochas records various experiments in which it was proved that subjects could hear sounds at a distance, or smell a definite odour, through the medium of their mummies, but he acknowledges that personally he has never been able to verify the fact under completely satisfactory conditions. Generally speaking, it should be added that these experiments are extremely difficult to perform successfully, and this is, indeed, the principal objection to which M. de Rochas's experiments are liable. The suppression of sensitivity in the physical body is always easily demonstrated at the beginning of hypnosis; but its reappearance at a given point remains an exceptional phenomenon, showing that in the majority of cases the odic phantom, if it does exist, is devoid of all consistence.

It should, however, be remarked that the localization of the sensitivity in the mummy is closely analogous to the situation created by the state of rapport during

hypnosis, for then, too, the subject receives at a distance all the impressions to which his magnetizer is subjected, just as he does in the case of the mummy. The state of rapport is to-day no longer disputed as a matter of current observation, and it would therefore not seem possible to reject the external localization of the sensitivity simply for the reason that it is difficult to prove.

M. de Rochas has moreover succeeded in showing that the formation of the equidistant sensitive strata which he observed about the physical body is easily explicable from a scientific point of view, if we suppose a sensory impression to be transmitted by a vibratory motion of the ether, akin to that transmitting light. It is possible, indeed, by calculation to find points of maximum and minimum activity, that is, wave-crests and wave-troughs, and the interferences which are always to be observed when the vibratory movement is generated from two distinct sources having different periods.

All that we need admit is that the effluvia correspond with the two great rhythmic movements of the body, that is, the beating of the heart and the respiration; and since the period of the former is about three times shorter than that of the latter, interferences are the necessary result, and these are manifested by the formation of concentric strata surrounding the physical body. These strata are in fact at equal distances one from another, as the theory requires which regards them as so many successive wave-troughs, and the insensitive surface of the skin occupies the place of an inactive wave-crest at a distance of half a normal wave's length from the nearest layer.

We have here, it is clear, to deal with a theoretical view of particular interest, and one would like to be able to test it by the application of mathematical formulæ. Unhappily we have no precise data as to the speed at which the effluvium is propagated, and this forms an essential element in any calculation.

The most simple manifestations of externalization of the fluidic double are usually of a mechanical nature, especially when they come about spontaneously. They

then generally consist in a definite number of knocking sounds heard either in furniture or walls ; on other occasions objects are moved without apparent cause, in the immediate vicinity but without the knowledge of the medium. Since attention has been directed to these strange phenomena, they have been found to occur pretty frequently, and it is no longer possible to completely deny their existence.

In the interesting work which we previously mentioned, Dr. Maxwell, who has made " raps " the subject of especial study, asserts that he has been able to verify their occurrence in broad daylight and without any contact with the medium ; he adds that to his mind they are scientific facts, and are entitled to a place among physical phenomena.

Analogous instances are to be encountered in the lives of the saints, in the history of mystics irrespective of any particular religion, in the extraordinary performances of the Hindu fakirs. We are told that the bodies of the saints, when they were rapt in mystic ecstasy, varied in weight to an astounding degree ; so much so, indeed, that sometimes they were lifted from the earth and remained long suspended in the air. This is the phenomenon known as levitation ; numerous examples of it occur in religious history and have been collected by M. de Rochas in a most interesting volume. Certain mediums, all of them detected as frauds, have been able to reproduce it.

At other times an ethereal phantom, externalized from the physical body, has appeared to ordinary persons, and has preserved the complete appearance of the body from which it emanated. This phenomenon is known as bilocation. Instances of it also are common in the lives of the saints, and it has likewise been met with in the case of divers mediums. The reality of similar phenomena has been proved to a certain extent, as we mentioned before ; observers have employed all the tests and the most accurate apparatus with which latter-day science furnishes them. Thus it has been possible to record variations of weight and transmissions of force by employing the balance and dynamometer.

Under the influence of a medium acting from a distance, either without any contact whatever or with the connection only of a thread of no resistance, it has been possible to prove clearly that the dial-hand of the apparatus moved in a manner which could not be caused in any other way. It has also been possible to take instantaneous photographs showing an object in absolute process of transportation and upheld in the air without any apparent support whatsoever.

Phenomena occur, in fact, just as if the medium's arm were fluidically prolonged, and thus acted upon a remote object, raising or lowering it at will. Perhaps we may suppose, as does M. de Rochas, that the fluid externalized is capable of impregnating a remote object, just as in the normal state it acts on the various bodily organs. The medium would then be able to command the object thus sensitized precisely as if it were one of his own limbs.

It must, however, be acknowledged that those phenomena occur almost invariably in darkness. This fact may doubtless be explained by supposing that light dissolves the odic fluid and deprives it of all consistence. But it is none the less true that this objection largely diminishes the probative force of observations made under such conditions. It forces us to multiply the tests, and makes it hopeless for us to look for absolute certainty.

But apart from mechanical actions, the externalization of the odic phantom may be revealed by luminous manifestations, by the appearance of transient lights, flashes, and phosphorescent nebulæ that form themselves momentarily in the vicinity of the medium and are indeed capable of producing an impression upon a photographic plate.

In certain cases, although these are extremely rare, the lights become, as it were, condensed and assume a likeness to some part of the human body, such as the hand or face. At the same time such persons as are near to the medium feel as if they were being touched, sometimes by a visible hand belonging to an invisible being; this hand, however, vanishes and melts away

upon any attempt to touch or grasp it. It has, however, been possible in such cases to secure distinct imprints of a hand, or even of a face, upon soft wax, and these imprints have the appearance of being caused, even down to the most trifling details, by some living being. Occasionally the materialization becomes so definite as to result in a material phantom, quite perceptible to the touch, but afterwards suddenly dissolving, although during its brief apparition it manifests all the peculiarities of physical life.

Intellectual phenomena do not in reality constitute a class distinct from those of a purely physical order As a rule they accompany the latter, and this shows how difficult it is to distinguish the various elements of which the externalization of the etheric body appears to be composed. To limit ourselves, for instance, to such simple actions as raps. It will generally be remarked that the knocking sounds produced apparently obey some external intelligence, for by their arrangement they usually express some definite and deliberate meaning. The spiritistic school regards them as a sign of the activity of disembodied spirits seeking to communicate with the living by means of the fluid borrowed from the medium. By reason of the particular interest attaching to this hypothesis we shall devote to it a chapter apart. To restrict ourselves for the moment to the relation of facts, we may remark that these typtological communications are not the only intellectual manifestations obtainable by experiment. Certain mediums, when in a state of trance, can give oral and written messages of which they retain no recollection in the waking state. These messages may relate to matters of which the medium is entirely ignorant; they may disclose unknown facts; they may even be couched in a language with which the medium is unacquainted. Everything, in fact, occurs as if the medium were merely the unconscious agent of some invisible intelligence which had taken possession of his etheric body and used it as a means for acting upon the organs of the material body. As we said when speaking of

spiritism previously, this invisible mind sees with the medium's eyes, hears with his ears. speaks with his lips, and writes with his hand.

It may even happen that the medium's body is occupied, not by one, but by several unknown intelligences simultaneously, as if they had portioned out the fluidic body among themselves, and each acted upon the organ corresponding to the particular part assigned to it. Reference to the transactions of the London Society for Psychical Research will show that Mrs. Piper, one of the mediums experimented with, was in certain cases able to give as many as three communications simultaneously, each relating to some different subject. The first was delivered orally, the other two by the right and left hands, Mrs. Piper thus apparently obeying three perfectly distinct external impulses.

A written communication does not always involve the employment of the medium's fingers, for certain observers profess to have obtained automatic writing without any intervention of a material agent. It should also be marked that the invisible operator thus disclosed appears to enjoy faculties higher than those possessed by mankind in its present condition. Very frequently he can read thought, see things removed beyond human sight, recall the past, and sometimes afford a glimpse of the future, as if the intelligence, when freed from the clogs of the physical body and illumined perhaps by the rays of some higher light, could freely penetrate the ether-world and directly interpret its unceasing vibrations. Perhaps it may be able to look upon pure ideas, which are imperceptible to our crude senses, for it seems to possess a sort of general vision permitting it to embrace at once the present and the past and to peer into the birth of the future, as if it could realize that miraculous contemplation of all things of which we spoke above.

The mere enumeration of the strange phenomena which we have just briefly summarized demonstrates how important they are to any study of the human soul, and also what interest attaches to proving their

undeniable authenticity. Whatever interpretation is to be given to these phenomena, or whatever conclusion is to be drawn therefrom, it would in itself be all-important to prove, with all scientific severity, that these disconcerting observations truly correspond with reality and are not the result of a mere illusion upon the part of experimentalists. This is, unhappily, a point which it is as yet exceedingly difficult, if not impossible, to decide, although it involves only a matter of fact. We have, indeed, to deal with facts which are not perceptible to all indiscriminately, and which cannot be reproduced at will. Odic radiation is visible only to the sensitive; externalization of the sensitivity, and automatic communications, are psychological phenomena which it is impossible for us to follow into the inner depths of the subject's consciousness; as to mechanical actions, they are far too often obtained without sufficient test of their truth, while the photographic views of them are not always above suspicion.

After all, the authenticity of these phenomena rests on the good faith of their observers, who have almost always been persons of high sense of honour, incapable of wilful deception, or upon the evidence of eminent men of science who have been trained in the severe school of experimental method. We may be quite sure that they have taken all the precautions possible to avoid error; but we cannot conceal the fact that they themselves, when they ponder upon the scene which they have witnessed, are not free from uneasiness lest some detail may have been overlooked which would have modified their appreciation of it. We must therefore admit that although the phenomena may present themselves to us with increasing probability, based as they are upon the concurrence of a growing number of observations, repeated under varying conditions, yet we do not possess, and may indeed never possess, absolute certainty, which flies before us despite all our efforts to seize upon it.

Nevertheless it would be of high interest could we obtain the irrefutable evidence for which mankind has so long and so vainly sought. It would seem that we

shall never do so unless we succeed in constituting, by the agency of invisible forces, a permanent material object which it would be quite impossible to produce by ordinary means, for it would in itself possess a probative force independent of the evidence of the witnesses of the experiment. Such an idea, at the first glance, appears no doubt utterly unrealizable, and this shows the difficulty of the undertaking. Yet be it remarked that materializations of inert objects, which subsist after their formation, instead of becoming again disintegrated as do phantoms, lend themselves better than all others to experimental verification, and observers might perhaps have recourse to them with utility. We think it may therefore be interesting from this point of view to suggest to them a test, the success of which, were it realized, would seem of a nature to furnish a decisive argument.

We would propose that, in the course of dematerialization experiment, of two rings, without joint, cut from two blocks of different organic materials, say ivory and wood, one should be made to penetrate the other. It is reported that Zöllner succeeded in obtaining such a result by the mere operation of psychic force. But, as he doubtless employed two manufactured metallic rings, it may always be suspected that a substitution was effected without being perceived by those present. The only doubt which could be raised in the experiment here proposed would be as to whether one of the two rings had not been cunningly joined. Such an objection would, of course, lose all its force, supposing a union were brought about which is unknown to nature and incapable of being effected by human skill. In that case the utmost criticism could only suggest that one of the rings had been cleverly soldered at an invisible joint; but then the joint would have to be pointed out, and the possibility be proved of effecting it under such convincing evidence of continuity.

CHAPTER XI.

MANIFESTATIONS AT GREAT DISTANCES. TELEPATHY.

Several Kinds of Telepathic Impression. Recent Investigations giving New Insight into the Human Organism. Spontaneous Telepathy described. Telepathy distinguished from Pure Hallucination. Points to be determined in making this Distinction. Investigations made from 1883 to 1886 by the London Society for Psychical Research. The Appearance of a Phantom and the Death of the Person not always Simultaneous. Investigations by the International Congress of Experimental Psychology, Paris, 1889, and by Flammarion, 1899. The Proportion of Coincidences in a Large Number of Cases taken as a Test of Telepathic Manifestations. Spontaneous Telepathic Manifestations explained. Facts showing that such Manifestations require a Certain Concurrence of Circumstances. Experiments in Transmission of Thought and Images, by Richet, Gilbert, Janet, and Others. Experimental Telepathy differs somewhat from Spontaneous. The Vibration Theory. These Vibrations explained by Analogies. The Action of Telepathy Uncertain as that of Lightning. Compared to Wireless Telegraphy. The Objective Existence of Ideas. The Psychic Image apparently Independent of Space and Time.

We have just seen how the fluidic double can manifest its action in the immediate neighbourhood of the subject by giving rise to certain strange but marked phenomena, seeing that they are perceptible to all present under identical conditions. We shall now have to record facts of another and even more mysterious order, in which the psychic force appears to be capable of acting at any distance whatsoever, but as a rule without causing any outwardly visible sign. It produces an impression only upon the brain of the recipient, who thereupon becomes himself an active agent in the production of the phenomenon, and receives, or thinks he receives, an external impression. Usually he sees an image, representing

either the subject or objects surrounding the subject; sometimes he seems to hear the subject's voice or even to feel the contact of his hands or face. He undergoes, in fact, a complete hallucination under the influence of the idea which is haunting him.

Occasionally it does happen that the impression thus excited at a distance assumes a material character and can be perceived by several persons at the same time, or even, indeed, by animals. But these are quite exceptional cases. As a rule the phenomenon appears to be purely subjective, although originally brought about by an external influence.

These strange manifestations are thus in certain respects assimilated to hallucinations proper, which latter are mere illusions created by a disturbed imagination. Consequently the generality of scientists have refused until lately to admit their reality. This refusal broke down, however, when facts were at last submitted to an unprejudiced examination. It could not but be recognized that these hallucinations presented the most astonishing coincidences with the events which they announced. These coincidences it was impossible to attribute to mere chance, and they must therefore be causally connected with the events.

Again, an eminent scientist, M. Ch. Richet, succeeded in demonstrating that thought was transmitted without any tangible intermediary; his researches were carried out in 1884; other experimentalists, following his lead—Messrs. Gilbert and Janet in 1885, the Misses Wingfield in 1886, and others—obtained results of even more probative force, thus showing that manifestations at a distance cannot *a priori* be considered impossible. They are, moreover, attested to-day by numerous exact observations, and constitute, under the name of telepathy, a new class of unexplained phenomena, of which the reality is no longer contested in principle, and which science no longer refuses to investigate. These phenomena are certainly destined to furnish us with new data regarding the constitution of the human organism and the existence of the etheric double; they may supply us with new insight which will make a useful addition to

that previously obtained, and we must therefore consecrate a special chapter to them.

When reduced to its essential terms, spontaneous telepathy may be described as follows: An impression is received by a percipient subject, which impression is caused by the unconscious action of an emittent agent, or a second agent remote from the first and sometimes at a great distance.

This action takes the form of a sense-impression: an image is seen, a sound is heard, or a touch is felt; and the percipient becomes cognizant of the agent, of whom he was not thinking. The action takes place, as a rule, when the agent is passing through some grave crisis such as endangers his life, and especially when he is on the point of death.

The impression, almost always quite transient, generally leaves no material trace behind it; and we should therefore, as we just remarked, have no reason for distinguishing it from a pure hallucination, were it not for the coincidence of the two facts, namely, the impression received by the percipient, and the decrease of the agent. The same consideration obliges us to set aside, as being purely subjective, such spontaneous hallucinations as do not correspond with some event in the agent's life sufficiently grave to be comparable with death; for we have otherwise no criterion whereby to discuss the coincidence.

It is, however, not impossible that a certain number of hallucinations, or even of ideas suddenly arising in our minds, may be excited by some extraneous action, as the study of experimental telepathy tends to show. Whatever the case may be, the coincidence of facts constitutes the decisive element in spontaneous telepathy. Without it observation loses all interest, for it is above all essential that the reality of phenomena should be proved beyond dispute. This is, indeed, a task requiring delicate handling; for if, on the one hand, it is easy to ascertain the exact date of the death of the emittent who was one of the factors of the phenomenon, it is far more difficult, on the other hand, to

determine precisely what was the impression felt by the percipient, and to reconstruct it exactly in all its details. The account given by the percipient must be probed; it must be found out whether his remembrance is quite trustworthy, whether he does not unconsciously embellish or magnify facts; the declarations which he made before learning of the death of the subject in a normal way must be compared; in fine, the materiality of the facts in question must be assured by all the criteria at our disposal. How difficult it is to arrive at certainty in such a matter is at once obvious; and even when one might, in certain determinate cases, imagine that certainty had been reached, one must always ask oneself whether it is not the result of a purely fortuitous coincidence, upon which it is illegitimate to found any conclusion.

In order to dispose of this objection we must have before us a number of analogous observations, capable of withstanding the most searching scrutiny. We may then show that the ascertained coincidences cannot be explained as a simple outcome of chance, but must of necessity be causally connected.

This difficult work of research was undertaken by the Society for Psychical Research, founded in London in 1882. It had the good fortune to have at its head three men of particular eminence very well fitted for their task; these were its first president, Sidgwick, considered one of the greatest critical luminaries of modern England, and its two honorary secretaries Messrs. Gurney and Myers. Thanks to them, the work was brought to a successful finish. They made it their business, together with Mr. Podmore, to collect all the instances of hallucination possible, and in so doing they neglected no precautions or measures to establish their exactness and authenticity. As they set much store upon arriving at a rational conviction in each of the cases recorded, they entered into direct communication with all witnesses who could shed any light upon the subject, and did all in their power to make their personal acquaintance, so as to estimate rightly their intelligence and good faith.

We shall not here dwell upon all the precautions which were taken and which made this vast inquiry, carried on during three years (1883-1886), a model of its sort. They will be found described at length in the Report published by Messrs, Gurney, Myers, and Podmore,[1] and in the abstract thereof given in French by M. Marillier.[2] Let us however remark that in collecting the evidence Mr. Gurney found it necessary to write sixty letters a day during those three years, and to travel thousands of miles. Messrs. Myers, Sidgwick, and Podmore did almost as much on their part. It is only at the cost of such exertions that researches of this kind can obtain any value, and it cannot be too much insisted on that no trouble is to be spared in rendering the evidence as perfect as may be.

The inquiry resulted in the collection of fifty-seven hundred and five cases, among which six hundred and sixty-eight hallucinations were recorded as having taken place between 1872 and 1885. Of these cases seventy-eight revealed a striking coincidence between the day and hour at which the hallucination was felt by the percipient and the death of the agent. When the two events were not absolutely simultaneous they never differed by more than twelve hours, the hallucination taking place after, or even before, the precise moment of the decease. In one particular case, that of Mr. Wheatcroft,[3] the comparison of the two dates led to the rectification of an error in the death certificate.

In other cases the coincidence is less perfect; that is, the difference exceeds twelve hours. Sometimes it is impossible to identify the image of the agent or to explain the apparition by any legitimate coincidence, so that some of these observations must be classified as purely subjective hallucinations. An analogous inquiry was instituted as a result of the International Congress of Experimental Psychology held at Paris in 1889. This revealed thirteen hundred cases of hallu-

[1] Phantasms of the Living.
[2] Les Hallucinations Télépathiques.
[3] *Op. cit.*, page 133.

cinations, of which thirty at least were recognized as being genuine on account of ascertained coincidences.

The eminent astronomer Camille Flammarion, who has also devoted himself to the study of these mysterious questions, organized an inquiry of a similar character on his own account; this was in 1899. He collected in France eleven hundred and twenty instances of hallucination, most of them resting on fairly exact concordance of dates, showing that the phenomenon is by no means so rare as might at first be supposed. The discussion of the figures thus obtained permits of our inquiring whether the number of ascertained coincidences exceeds the number which might be due to chance. This is a question which must be answered by a calculation of probabilities. It must, however, be remarked that, owing to the very general terms in which the problem is necessarily presented, this calculation cannot yield a single absolutely definite solution, for it may be carried out from different points of view.

It might be inquired, for instance, what would be the normal proportion of genuine hallucinations as against those which are purely subjective; or again, what at any given moment are the chances that those friends or relations will die whose image the percipient would be able to recognize in a telepathic hallucination. Each of these ways of looking at the matter necessarily leads to a calculation yielding particular results of its own. But, whatever standpoint be adopted, the ultimate conclusion is in no wise altered. For in each case the number of coincidences recorded greatly exceed those predicted by calculation of probabilities.

For example, as against subjective hallucinations, the telepathic manifestations recorded are four hundred times more than those which would be due to chance; the ratio becomes one of four millions to one, when we take into account the probabilities of death, even if we accept the maximum limit of twelve hours to which we have before referred. If we reduce the limit to one hour, or take into account the fact that the apparitions often occurred at the very instant of death, the ratio becomes almost fantastically great.

We thus see that the hypothesis of telepathic hallucination being a true phenomenon is four million times more likely than that of its being a purely fortuitous coincidence. This conclusion would become even more cogent if we were further to take into consideration coincidences of detail which in each case corroborated the impression produced by the apparition and facilitated its identification ; or if we were to reckon in cases of collective hallucinations, especially those reciprocal hallucinations in which both factors involved, emittent and percipient, appeared to each other simultaneously.

Under such conditions it must be admitted that the theory of the operation of chance present such grave difficulties that it cannot but be abandoned.

It may be objected that it entails no material impossibility ; but it must also be recognized that in such cases absolute certainty is beyond us, because we cannot repeat the experiment *ad infinitum,* as the theory would demand, and consequently we must be satisfied with approximate certainty, as we are indeed in the acts of daily life.

We may add, to employ a trite comparison, that were we to cast together at random all the letters of which the Iliad is composed, no reasonable person would hesitate to predict that the combination thus obtained would *not* reproduce the text of the poem ; yet that combination is in itself just as probable as the one which will, in fact, be produced, so true is it that when we reach such high numbers probability and certainty become confounded.

As we have before remarked, telepathic hallucination is induced by an unconscious action emanating from the emittent, which impinges upon the brain of the percipient and gives rise in him to an impression varying according to particular cases.

This action appears to manifest itself in cases of violent death, especially by drowning. It would seem that at that moment all the forces of the psychic being are concentrated in the thought of a beloved person, whom the expiring victim calls to his aid or longs to look upon in a last farewell, and by a mysterious projec-

tion which we can very well conceive, the image of the dying man in his last agony becomes materialized, and can manifest itself to the person thought of if he is qualified to perceive it.

The feeling of imminent danger, which is not necessarily succeeded by death, sometimes suffices to bring about this externalization of psychic force, and it has been possible to ascertain from those who have survived such peril that as a rule they have retained no precise notion of the manifestation of which they were the authors. This manifestation seems to have concerned only the psychic organism which left no record of it upon the normal consciousness. It is inscribed only in the mysterious domain of the subconscious, which alone seems to retain the complete remembrance of the forgotten events of life.

Let it be added from another point of view that, if in certain cases the violent impression produced by imminent peril of death is really sufficient to bring about a fluidic action at a distance, it is nevertheless not able so to do unless each of the factors concerned, emittent and percipient, presents the conditions of temperament requisite for the production and reception of the phenomenon ; and this, moreover, is the sole consideration which can explain the great rarity of these manifestations, which are after all exceptional.

Experience, moreover, teaches us that hallucinations are rarely experienced more than once in a lifetime, which goes to show that they require a peculiar concurrence of circumstances. As far as regards the percipient, we can instance various examples in which the apparition of a dying person has not been perceived by the relation whom it was evidently desired to affect, but by a stranger who happened to be in that relation's immediate neighbourhood and was unacquainted with the deceased, but doubtless possessed the faculty of being influenced by invisible manifestations. We would refer in particular to the case of Mrs. Clerk, which is recorded as Number 87 in Marillier's work referred to above.

She was seated, she said, during the month of August, 1864, upon the veranda of her house in Barbadoes, and

noticed nothing abnormal in her surroundings, when suddenly a negress, who was looking after her little boy, came up to her and expressed surprise at seeing her refuse to answer the stranger who stood by her side. From her description of this person, she learned that it was her brother who was meant, but who was unknown to the negress. Shortly afterwards she heard that her brother died upon that date a long way off, at Tobago.

As a rule, the peculiar temperament of the percipient contributes to decide the kind of hallucination. The action emanating from the emittent can only be regarded as generally excitatory, and therefore capable of provoking various manifestations should it at the same time act upon different sensitive persons. One may hear a voice, another may see the spectre of the dying man appearing in his usual form and dressed in his customary manner, or else, on the contrary, retaining the attitude in which he had been overtaken by the crisis which robbed him of life. This would seem to indicate that we have to do with a purely subjective phenomenon, possessing no material reality.

At the same time, be it remarked that this rule is not without exceptions; for the inquiry instituted by the Society for Psychical Research disclosed certain cases in which an auditory hallucination has been perceived by animals, and such an example will be found in Mr. Garling's statement.[1] Generally speaking, visual hallucinations are by far the most common, which fact is to a certain degree explained by their being more easy of identification. Next in order of frequency come auditory hallucinations, which are much less rare than tactile hallucinations, the latter being excessively uncommon and rarely appearing by themselves.

On the whole it may be said that hallucinations seem to manifest themselves more readily when the mind is freed from other preoccupations, as, for instance, when the percipient is in bed and about to fall asleep. Relatively numerous manifestations are known which have occurred either in a state of complete wakefulness or in the course of dreams.

[1] Marillier, No. 121, page 322.

The phenomena which we have so far described have been essentially spontaneous; they have been excited as a rule by an unconscious agent, and recognized by a percipient who was not expecting them. We have consequently encountered very great difficulty in establishing their authenticity from a scientific point of view; it is therefore a matter of great interest to discover whether they may not be reproduced by experimental means. Many talented observers whose names we have before mentioned, such as Messrs. Richet, Gilbert, and Janet, have devoted themselves to this study and have obtained results clearly demonstrating the possibility of artificially producing parallel phenomena; of obtaining, for instance, the transmission of thought to a distance by operating with subjects endowed with suitable qualities.

With this object they performed numerous experiments, which they multiplied intentionally, so as to do away, as far as possible, with fortuitous coincidences. They operated under conditions permitting of a vigorous application of the calculation of probabilities. In the divination of numbers thought of, for instance, they discovered that the total successes obtained far exceeded those predicted by the calculation of chance.

Thus, in a series of four hundred experiments carried out in June, 1876, Mr. and the Misses Wingfield obtained twenty-seven complete successes, whereas the number foreseen was only two. In twenty-one cases the two figures composing the number were given rightly, but their order was reversed. In one hundred and sixty-two other cases one of the two figures only was correct, but occupied its right position.

Certain English and American experimentalists have succeeded in transmitting images with the most extraordinary degree of precision, as is recounted by M. Marillier. M. Camille Flammarion also cites a large number of analogous instances collected by him, so that it would seen impossible to negative all this evidence, at least without further examination.

Thus experimental telepathy goes to confirm the reality of spontaneous telepathy, but it differs therefrom

in certain respects, in that it induces hallucinations of a different character. It proceeds by awakening ideas in the mind of the percipient without causing any visual or auditory impression, as is the case in spontaneous telepathy. It can, however, transmit certain sensations, as pain and pleasure, or the tendency to perform certain actions, of which we find examples in experiments in magnetism. The subject does not require to be brought into a state of hypnosis, but at the same time he must not be in a condition of complete wakefulness. He should, on the contrary, endeavour to withdraw his thoughts from external matters and to assume a state of receptivity in which he may be able to discern the action impinging upon his brain.

The observations which we have just summarized show that we cannot deny the possibility of one organism acting upon another at a distance, and we may add that from this standpoint, telepathy has won a firm foothold in science. At the same time we must confess that as yet we possess no satisfactory explanation of these mysterious phenomena. In any attempt to determine the fundamental principle, at least, upon which an explanation will in all likelihood have to be based, we again come back to the general notion of those incessant vibrations in the invisible ether to which we have already reduced the material universe, and which likewise appear to us to be the only possible intermediary of psychic force.

We were previously able to explain manifestations produced in the immediate neighbourhood of the subject, merely as an externalization of the fluidic double. But when we come to give account of manifestations, widely differing in kind and effected over large distances—cases in which images and thoughts are transmitted—it becomes difficult to admit these as simply phenomena of externalization. It would, on the contrary, seem much more probable that the emittent agent unconsciously brings about a peculiar species of radiation, which is instantly transmitted through the medium of the ambient ether or of a fluid perhaps more subtile

still. The vibration thus produced may either spread through space in ever-increasing spheres, until it at last reaches the person for whom it is intended and who can receive and interpret it, or else it may proceed toward him unhesitatingly, as would a conscious messenger, and thus preserve all its energy in order to manifest itself to him. Neither of these alternatives can we positively affirm, for we see in material nature no force capable of thus covering distances and passing through obstacles, and even of suspending its action for a certain time, without undergoing any marked diminution of power. We are, however, acquainted with analogies which permit of our explaining to a certain extent how these hypothetical vibrations may possibly act. We know, for instance, that an acoustic vibration of a given pitch sets in motion a tuning-fork or the sonorous string which yields a note synchronous with its own.

In like manner, a magnetic needle can act at a distance upon another such needle and communicate to it oscillations synchronous with its own, just as the vibrating disc of a telephone transmits to a receiving disc by means of an electric current all the undulatory movements which it experiences, however complex they may be. We are to-day in possession of an even more striking example in the application of Hertzian waves to wireless telegraphy. We know that they are transmitted without any perceptible intermediary, and that they can be taken up by the receiving station, so long as it is capable of producing synchronous vibrations; otherwise they would pass as unperceived as if they did not exist at all. As M. Camille Flammarion has so well put it, the chord of a piano which moves under the influence of a vibration imperceptible to the neighbouring chords would certainly be regarded by them as hallucinated, were they able to think. The same would be the case with the receiving station for Hertzian waves, were it placed among other receiving stations whose synchronism was different. Is it not legitimate to suppose that the same holds good of the transmission of psychic waves? Are we not going beyond our rights in condemning the

percipient whose brain has gathered up vibrations which we ourselves do not feel ?

Let us suppose that in presence of these vibrations the human brain acts like a kind of sponge formed by the union of countless bundles of fibres of varying lengths, each of which is capable of vibrating in response to certain special conditions.

The external vibration affects that bundle which best responds to it, and causes the displacement of a fibre, the movement of which is synchronous with its own. This fibre, by its vibration, gives rise in the brain to a particular sensation which depends upon the nature of the bundle affected and upon the echo which it arouses in the neighbouring fibres, but is not of necessity identical with the motive-sensation. We can thus explain the formation of those multiple impressions which appear concomitantly with the telepathic message, and whose insignificance seems sometimes to contrast so strangely with the serious preoccupations that should be called forth by a communication from a dying person. But telepathy is an essentially irregular phenomenon, and it is impossible to foretell the forms which it may assume, any more than we can predict the action of lightning, whose fantastic freaks are, as we before remarked, far more bewildering than those of the psychic force.

From another standpoint let us note that the volition of the subject has as a rule no direct share in the phenomenon ; it is merely an image emanating from him which causes an impression upon the brain of the percipient.

In spontaneous telepathy this motive-image is formed unconsciously, whereas in experimental telepathy it is willed by the emittent. But in either case we remark this necessary intermediary, and at the same time we see how the transmission may take place, if we admit that the conceptions of the mind are outwardly expressed by ether-vibrations analogous to those of light and electricity.

The human brain thus becomes a kind of double station, serving both to emit and to receive, as in wireless telegraphy ; the analogy is even more complete since

it appears to be proved that the human brain, as well as that of certain animals, can be influenced by Hertzian waves, both during life and after death.

Upon this matter certain papers laid before the Academy of Sciences by Dr. Tomasini will be read with interest, as will be the account of some curious experiments performed by Dr. Guarini, who claims to have succeeded, by insulating himself from the earth, in perceiving Hertzian waves, just as would a receiving station.

If, indeed, thought gives rise to an ether-vibration, we see how an idea can acquire an objective existence, as was supposed by Plato and other great philosophers of antiquity whom we mentioned in Part I. of this work. We may add that divers experimentalists, like Commandant Tegard, Dr. Rozier, and others, profess to be able to provide material photographic proof of this objective existence of ideas. They assert that they have obtained upon a sensitive plate a direct image of objects thought about. The authenticity of this phenomenon is not, however, quite secure. To restrict ourselves to arguments derived from telepathy, thoughts certainly appear to be related with vibrations of the invisible ether, and therefore, perhaps, to be capable of eternal existence, in the same manner as are the phenomena of the material world, whereof this mysterious fluid receives the image.

We can thus conceive the universality of the law of indestructibility, which preserves ideas themselves as well as facts, in the very words of Scripture, which teaches us that God can see to the bottom of our hearts and will judge us even according to our most hidden thoughts.

Unlike luminous and electric vibrations, the psychic image appears to a certain extent independent of space and time. Sometimes the apparition of one dying far away will make itself felt at the very moment of his passing; at other times it would seem to await the favourable moment for some time, as if it could do so without being destroyed.

We know, moreover, that certain sensitive subjects

have been able to perceive distant and especially past events with the same life-like intensity and wealth of detail as if they were witnessing a real scene ; in certain highly exceptional cases they are said sometimes to have caught glimpses of the future. Various instances will be found in M. Camille Flammarion's work, in the chapter devoted to premonitory dreams and the divination of the future. Here again the observations collected are many and precise, and it is difficult to reject them absolutely. It is clear what high value they give to the theories which we have expounded above, for they would show that the law of indestructibility embraces both the future and the past, and assigns at the same time the general sense of the history of the universe.

CHAPTER XII.

AN EXAMINATION OF THE PROPOSED HYPOTHESES.

Impossibility of finding a Single Solution applicable to every Mediumistic Phenomenon. The Theory that the Medium's Personality is doubled. Dr. Grasset's Exposition of this Theory. The Particular Part of the Brain occupied by the Conscious Ego. Other Brain Centres. The Double Personality of the Medium conceived as a Result of Independent Action of the Brain Centres and a Splitting of the Etheric Body. The Ego's Resistance to Suggestion an Argument in Favour of a Voluntary Element in the Soul. Annihilation of the Will under Hypnosis. Characteristics of Double Personality. Dr. Grasset's Theory as applied to Telepathy. Consciousness relatively independent of the Ego. The Medium's "Guiding-Spirit" his own Personality. Thought-reading. Hypotheses founded on the Idea of the Interposition of Discarnate Souls. Difficulty of proving the Authenticity of Spiritistic Communications. Tests applied by Members of the Society for Psychical Research. Insignificance of Revelations supposed to be made by Spirits.

THE mysterious phenomena of which we have just spoken would necessarily seem to require the interposition of a semi-material fluidic element capable of exerting physical action outside the human body, and when the authenticity of these facts has been firmly secured, they will probably lend decisive support to the conception of an etheric double. Nevertheless the mystery will not have vanished, for there will still remain to be explained the intellectual manifestations by which these phenomena are accompanied and which contribute much toward giving them a marvellous character.

We must inquire whether the intelligent action animating the organs of the entranced medium really emanates from an external and invisible being, or whether, on

the contrary, it is the unconscious creation of the psychical force operating in the intellectual domain, as it does in the physical world. This is a problem which has long been debated and is still continually discussed, but without any definite solution being arrived at. We do not hope to solve it here; but, upon the strength of the results so far attained, we can say that it is incapable of receiving a single solution applicable to all cases. What is required is a different explanation according to the character of the phenomena observed. We think it best to restrict ourselves at present to a description of the principal theories proposed with this intention, and we shall apply them only to such categories of particular facts as they seem best fitted to explain.

In the case of a first series of data, which indeed appears to be the most important of all, theory asserts that the personality of the medium is doubled, or perhaps, to speak more precisely, disintegrated, in the sense that the conscious ego loses its normal control over a portion of the psychical faculties, which then act without its knowledge and evoke the unconscious memories latent in all of us.

But for the second series of data this explanation does not suffice; for we are here confronted with ideas of which the medium is entirely ignorant, but which are known to one at least of those present. We are led to suppose that the medium was able to derive them from the brain of those present by some mechanism which eludes us, but which we can observe in operation in telepathic phenomena. It is therefore only the unconscious transmission of thought, combined with the hypothesis of the psychical disintegration of the medium, which is really adequate to give a natural explanation of the great majority of the facts.

It has, moreover, been urged that this explanation should cover all the facts without exception, so that we should never be under a necessity to entertain any hypothesis involving superhuman interposition. But it must be admitted that, despite all the efforts which have been made to generalize the theory, there still remain certain refractory cases for which it is

inadequate. Out of pure necessity we are forced back upon the idea of an invisible being which manifests itself to us physically through the agency of the medium. We thus revert to the hypothesis of the interposition of external intelligences, which are either the discarnate souls of the dead, or perhaps, as we shall see further on, other spiritual beings whose existence we are bound to suppose.

In the present chapter it will be our endeavour to examine somewhat minutely each of these hypotheses. We shall summarize, as far as may be, the arguments which each can put forward and the objections which each incurs.

The hypnotized subject, who loses personal consciousness and knows no other will than that of his magnetizer, certainly undergoes a disintegration of his personality, with the result that his conscious ego no longer has control over his acts and movements ; and this explanation equally applies to the entranced medium, who likewise performs deliberate acts of which he has no consciousness. In either case the personality of the subject loses the absolute unity with which we supposed it to be endowed ; it appears to us, on the contrary, as a complex whole, admirably co-ordinate in the normal state, but the elements of which can none the less in certain exceptional cases recover a relative independence.

The theory of psychical disintegration is that at present most generally admitted, and Dr. Grasset has expounded it in a most valuable work entitled " Spiritism in the Light of Science " (" Le Spiritisme Devant la Science ") ; he has shown how it permits of our conceiving, from a physiological point of view and in principle at least, the production of deliberate acts escaping the observation of consciousness. We must distinguish, he says, between automatic acts proper, which are the involuntary response of the organism to an external stimulus, and other more complex acts, which would seem to be equally automatic in the sense that they are performed without consciousness, but which, nevertheless require real personal deliberation, implying the

interposition of a psychical force unknown in the first instance.

The cerebral action which stimulates automatic actions proper is that of the simple reflexes which set themselves in movement spontaneously without there being need for the consciousness to intervene. Deliberate acts, on the contrary, can be determined only by a more complex action emanating from the higher centres immediately bordering upon the consciousness. We may suppose the higher conscious ego to occupy a distinct region in the brain, situate in the midst of a polygon, the vertices of which are formed by the higher nerve-centres, each corresponding to one of the modes of action whereof the consciousness is capable. Thus we find on the one hand the sensory receptive nerves, such as those of hearing, seeing, general sensitivity, and on the other hand motor centres of transmittance, such as those of speech and writing.

These various centres are to be found in the grey matter of the cerebral convolutions, and they are connected with the periphery by special fibres, centripetal (afferent) or centrifugal (efferent), the former transmitting impressions from the outside, and the latter conveying to the motor nerves impulses derived from the former.

They are likewise connected with the higher centre, or conscious ego, which almost always acts as a necessary intermediary between one of the polygonal centres and another ; but these centres are also united by inter-central fibres, thanks to which they can enter into direct communication with each other without recourse to the superior centre.

In such a case the impression produced does not pass the limits of the polygon, and no intervention upon the part of the consciousness is required. We are here confronted with an unperceived sensation ; we are entering upon the domain of subconsciousness, so admirably handled by Myers, which is to be found in each of us coexisting with normal consciousness.

The subconsciousness retains the remembrance of all facts forgotten by the conscious memory, and it likewise possesses certain intellectual faculties which would

at first sight appear to be the exclusive privilege of consciousness ; it can, however, intervene only when the consciousness is over-absorbed and loses its control, as is the case, for instance, during distraction or sleep.

The polygon then acts independently without awakening consciousness, but in the normal state its action immediately reappears under the action of anything like an energetic impression. This is not the case, however, in hypnosis or mediumship, when the consciousness appears entirely absent, so that upon awakening it retains no memory of the past.

Dr. Grasset's theory, as may be seen, establishes an essential distinction between purely automatic actions and those which suppose a psychical interference apart from consciousness. His conclusion is that these two modes of action are governed by distinct cerebral centres. This conclusion is, however, contested by certain physiologists, who opine that between automatic life and the higher psychism there is no sufficiently clear distinction to allow of their being connected with separate organs.

We must, however, concur with Dr. Grasset in this : The distinction is one of facts, as is shown in particular by the example of mediums. Dr. Grasset adds, moreover, that certain aphasics possess automatic language, although unable to articulate conscious language.

His theory thus explains disintegration of the personality by considering certain cerebral centres to operate independently. It therefore does not require the interference of any fluidic element, but it may be seen how readily the latter adapts itself thereto. All that is required is to imagine that the supposed centres are actuated by corresponding portions of the fluidic double detached from the central nucleus ; and this explanation will have more interest when it is practically impossible to distinguish between the cerebral centres which theory supposes to interfere separately. The hypothesis of a fluidic double has already permitted of our explaining phenomena of a sensitive or mechanical order, such as the externalization of sensitivity and motivity ;

it would therefore seem the obvious thing for us to have recourse to the same hypothesis in explaining phenomena of an intellectual order.

We shall look upon disintegration as being the result of a splitting of the etheric body, as a consequence of which certain cerebral centres are insulated from the normal consciousness. It may happen, sometimes, that the fragment thus detached includes the ego of the subject, which is then united with it in a more or less formal manner, and in that case the phenomena immediately assume a different aspect according to the degree in which this precarious union is effected.

If we start with simple hypnosis, which does not appear to affect the ego of the subject, we can pass through all the series of mediumistic manifestations in which the more or less marked interference of the ego always preserves an exceptional and transient character, and finally we shall arrive at a complete and permanent doubling of the personality.

It is worthy of remark that in all phenomena of disintegration of the fluidic envelope, the resistance to suggestion becomes more marked in proportion as the intervention of the ego is better accentuated; and this fact, attesting as it does the personal activity of consciousness, furnishes us with an argument of great value in favour of the existence in the human soul of a voluntary and independent element.

In the extreme case when the separation has taken place without any intervention of the ego at all, the subject, no longer guided by himself, loses all personal initiative and becomes characterized by that extreme suggestibility which is so distinctive a feature of hypnosis. The etheric fragment governing his actions appear devoid of all volitional power, and obeys without resistance all the impulses which successively come to sway it. In mediumistic experiments it immediately brings about the manifestation required, when it is a matter, for instance, of performing a predetermined number of raps; and in cases of simple suggestion it causes the subject to strike attitudes, make gestures, and assume expressions, representing, with a talent to

which even expert actors cannot attain, the successive thoughts to which it is inspired.

If we now take the opposite case, in which the will appears to retain its full power and is not annihilated as in hypnosis, we can suppose the ego of the subject to animate in him either of the two independent fragments of the mental body, and thus always to form a combination possessed of a certain stability. This is the phenomenon of double personality, of which we have many examples apart from mediumistic manifestations.

The physical body of the subject is then inhabited, as it were, by two different beings, each of which occupies it alternately, preserves throughout the period of its temporary manifestations the appearance of normal existence, and displays no particular aptitude for suggestion, which is the reverse of what is the case with hypnotic subjects.

Subjects affected by double personality are distinguishable from normal persons by one quite decisive characteristic: they never possess the continuous remembrance of their past existence; for they are formed, as it were, by the union of several distinct personalities, each of which is aware only of acts performed during its own particular manifestations, and is ignorant of all others. In its successive recrudescences each of these distinct personalities will be found self-identical, and will possess the complete and exact remembrance of all its previous acts. We are consequently led to believe that the splitting of the etheric body which induced this duplication of personality takes place in a fixed and constant manner; the line of rupture must always be the same and must invariably isolate the same elements. This is indeed a characteristic property of all subjects who display these phenomena in any marked degree.

The result of these changes in personality is often to bring to light subconscious memories, especially in mediumistic manifestations; and so a whole line of interesting investigation might be opened up, permitting us perhaps even to learn something of prenatal history, were it proved that subconsciousness involved know-

ledge which the subject could not possibly have acquired during his present life.

Up to the present this has not been demonstrated, albeit certain mediums certainly have possessed subconscious knowledge difficult to explain otherwise. It must not, however, be forgotten that these exceptional faculties occasionally displayed by the medium cannot be explained by a mere disintegration of the personality, and this is perhaps the most serious objection that can be brought against Dr. Grasset's remarkable theory; for it cannot show how the cerebral centres, when independent of the consciousness, can acquire the faculty of perceiving and acting at a distance, which is refused to it in the normal condition. Thus we are again led back to the conception of a fluidic intermediary capable of partly detaching itself from the physical body and of thus receiving impressions upon a plane more subtile than that of matter.

As Dr. Maxwell remarks in handling Myers's theory of subconsciousness, it is quite true that in the mediumistic state there is a decided enfeeblement of the feeling of personal, conscious, and voluntary activity. But this may perhaps be ascribed to the disappearance of a mode of consciousness, and may thus be viewed as constituting rather an integration than a disintegration; for it reveals to us a general consciousness of which personal consciousness is perhaps only a reduced element, which has become more definite in becoming concrete.

As soon as the ego of the subject unites with the etheric group and determines the personality which thereupon manifests itself, it assumes a consciousness which is exclusively determined by the memories preserved by this new grouping, and it entirely forgets those of the aggregate which it has just left. And so we arrive at a conception of the phenomena of consciousness as being possessed of a relative independence in relation to the ego, which nevertheless identifies them with itself, because at each instant they are represented to it by the etheric elements which it is capable of perceiving.

In manifestations intermediate between the two

extreme cases which we have just considered, the ego of the subject accompanies the aggregate detached from the fluidic body and forms a new personality with it. The resulting combination is of a purely transitory character, and is restricted to the period of mediumistic trance. The separation involves the same fluidic elements when the same personality reappears, and is always self-identical in successive trances, while it retains the memory of past trances in their integrity.

This explanation permits of our conceiving that the guiding spirit, peculiar to every medium, and manifesting itself at the beginning of every trance, may be viewed as a simple doubling of the medium's personality, if indeed the guiding spirit is not entirely fictitious, as there is every reason to suppose it is.

It must be noted that this new personality does not possess the same permanent character which is to be met with in non-mediumistic duplications; for very frequently it becomes modified with time, and it may even vanish during a single *séance* in order to give place to different personalities, no doubt themselves the result of a particular disintegration of the fluidic body.

These creations of fresh personalities are in a certain measure influenced by the unconscious collaboration of those present, who, it would appear, when forming a chain with the medium emit fluidic emanations capable of combining with his; and one can understand that the fictitious being thus formed should give rise to manifestations which show it to have gathered ideas from some of those present. Thus it is that it is able sometimes to reply to purely mental questions or reveal facts of which the medium was unaware. The phenomenon of thought-reading is indeed that most frequently met with in spiritist manifestations.

Taking the recorded observations as a whole, it appears that this "reading" bears chiefly upon ideas *qua* ideas, as if they possessed an independent existence of the kind which we remarked in treating of telepathic phenomena. The subject perceives the idea of an act without in most cases being able to tell whether it has been realized, is being at present accomplished, or still remains

a mere project. The notion of time appears to fade away before the vision of the idea, and this fact is even more striking because, in hypnotic phenomena, on the contrary, the subject observes time differences with minute precision. Perhaps this may be due to the fact that his attention is then especially drawn to time.

Let it be remarked from another standpoint that the consideration of the predominant part played by the idea in mediumistic phenomena may explain why the observation of the entranced medium is sometmes directed for preference to an obscure fact known only to one person present, and at the moment almost forgotten even by him. It is possible that when he became aware of the fact, it caused a vivid impression upon him, of which he unconsciously retains the trace.

The foregoing hypotheses are probably sufficient to explain the large majority of mediumistic phenomena which appear to obey laws that are doubtless imperfectly known, but none the less fixed, and that fulfil the conditions of all natural laws. True it is that we remark a certain inevitable spontaneity in the study of psychical force; but the manifestations to which it gives rise, and the radiations which it emits, can be explained by purely natural modes of action for which we have numerous analogies. Nothing compels us to suppose that it emanates from some source external to the subjects observed.

It must, however, be recognized, that this is not always the case. Undoubtedly in certain exceptional instances this unknown force does furnish us with evidences which are quite unfamiliar and cannot be explained by the foregoing theory, however much it may be strained. In our inability to discover another hypothesis of a purely natural order, we are led to wonder whether this force does not emanate from invisible intelligences, whether, indeed, it is not a manifestation of the souls of the dead, as it so often asserts itself to be.

According to the spiritist theory the discarnate souls retain in the world beyond only the most subtile portion of that etheric aggregate of which we are seeking to

ascertain the existence in the present life. In order to manifest themselves they borrow the organs of the medium, upon whom they act through the agency of the semi-material odic fluid which he externalizes, they substitute their personality for his, and are thus able to act and speak as if they were still possessed of physical life. These are evidently facts of paramount interest, which would at once settle in the affirmative all discussions relative to survival were their authenticity sufficiently demonstrated. It is, however, unfortunately very difficult to establish with certitude the identity of the manifestations thus obtained.

In such a communication the surviving relative, trembling with astonishment, finds, even to the smallest particulars, a repetition of the tricks of manner and the fancies of the beloved being whom he has lost, and it takes in his eyes a positive worth which it has not for the other spectators. Yet he must wonder whether the medium has not unconsciously read in his mind the remarkably exact information which he has been surprised to find in the medium's words.

The communications thus obtained are not entirely convincing unless they bear upon points unknown to the medium and to the persons present, the verification of which is at the same time very difficult; it being granted of course, even then, that all precautions have been taken to avoid fraud, which is always a possibility.

The proof thus derived would be even more decisive were it possible to induce a communication revealing, for instance, the contents of a sealed letter known only to its author and left by him at death, with the promise that he would subsequently endeavour to communicate its drift by mediumistic means, should that be possible in the world beyond.

Such an experiment has indeed been tried twice, namely, by Miss Hannah Wilde, who died in 1884, and by Mr. Stainton Moses, who died in 1892, but up to now it has not yielded the hoped-for results.

However that may be, we can refer to the experiments carried out under the auspices of the Society for Psychical Research by Messrs. Hodgson and Hyslop.

The medium employed was a very remarkable one, Mrs. Piper by name; and they considered their results to be conclusive. After fourteen years of persevering research, these eminent experimentalists had no hesitation in declaring that certain communications obtained through the agency of this medium appeared to them to emanate really from the communicators to whom they were ascribed, especially as far as two cases were concerned, namely, those of George Pelham and Mr. Hyslop's father.

In the report which Mr. Hodgson devoted to the manifestations of George Pelham in particular, he remarks that very numerous and remarkable proofs of identity were forthcoming. Pelham was able to recognize and call by name all his friends who came to consult the medium, to inform them of facts unknown to the medium, continue the last conversations he had held during terrestrial existence much about where they had been broken off, and translate several passages from the Greek, albeit Mrs. Piper did not even know the characters of that language.

Not but that in these communications, which are rightly esteemed to be among the most clear and conclusive, real errors and discordant statements can be remarked, seeming to emanate from the subconscious personality of the medium; and it cannot be disguised that this mixture of truth and error often robs the best communications of the greater part of the value one would wish to attribute to them. Mistrust is increased when one has to deal with the usual kind of communications. It cannot be denied that they as a rule bear upon insignificant details, and are either frivolous or vulgar. Occasionally they would seem to be dictated by feelings of vain and lying derision, as if they emanated from some mocking spirit that rejoiced in inflicting deceptions upon the living. They give us no precise information as to the world beyond, or of the way in which life is there evolved; and of necessity people come to wonder whether their invisible interlocutor is really the soul of one dead, as he claims to be, seeing that he has no compassion for the ignorance of his

brethren still held in the durance vile of matter, or whether he is not rather the spirit of pride, error, and untruth, always fired by some thought hostile to mankind, as the Church supposes him to be. And here we recognize that the observation of facts may furnish interesting arguments even for the discussion of religious dogma.

CONCLUSIONS.

Evidences of Future Life found in both Science and Tradition. Traces of this Belief found in Ancient Monuments, Laws, and Customs. Its Value in quickening Man's Higher Instincts. Man's Unwillingness to believe in Absolute Extinction. Light thrown by Astronomy upon the History of the Universe. Science as an Aid to Philosophy. Indestructibility of Matter and Force. Applicability of this Law to Past Events and to Thought. Ether the Medium of Action for All Forces. The Hypothesis of Ether necessary to the Explanation of Material Phenomena, and perhaps of Life. Phenomena connected with the Astral Body. Unreliability of Mediumistic Communications. The Existence of an Immaterial Element in Man a Matter of Hypothesis, as with Ether. Probability that Consciousness is transformed, if not destroyed, by Death. Moral Attainments of this Life probably conserved in the Next. The Astral Body probably the Medium of Feeling in the Life to come. Inability of Science to throw Light upon our Condition after Death. Revelation of Man's Likeness to the Divine Trinity. Dependence of Souls in Purgatory upon the Prayers of the Living, or else on Reincarnation. Difficulties in the Way of Belief in Reincarnation. Importance of clinging to the Principle of Survival, as founded on both Science and Tradition.

In our endeavour to track down the elusive phantom which we are pleased to call the human soul we have covered an immense ground; but as we have pushed forward we have gathered up, one after another, any scraps of evidence capable of guiding us in our investigation. Beginning with an examination of the legendary traditions of past ages, we have ended with a review of the positive observations of latter-day science together with its most firmly founded theories. It is now our duty to inquire to what extent the truths which we have thus accumulated are able to shed light upon the eternal mystery of which mankind has been so long and fruitlessly seeking the solution.

It must be admitted that in the course of our repeated

inquiries we have never been permitted to obtain a complete conception of man such as would furnish us with the irrefragable proof which we require; nevertheless, in lieu of this formal conception, which mankind is perhaps destined never to acquire, we have been able to discover in all the different branches of knowledge, manifold evidences the concordance of which, owing to their very number, may attain to a probability indefinitely approximating to certitude. In this case the bringing together of observations so widely different in their origin must of necessity lend more decisive authority to the conclusions deducible from them.

From the study of ancient traditions we have learned, first of all, to recognize that the belief in survival had influenced man from the very outset of history. Such a belief is distinctly assumed in the unwieldy monuments which have been left in every region of the world, by primitive races long since lost to memory. It is to be traced with equal clearness in the laws and customs of ancient peoples, whose legislation has been handed down intact to certain contemporary nations, and it has left a deep impress upon modern States. It is a belief which has gone to form the common basis of the religious traditions of all the peoples who have contributed to the civilization of the human species, such as the Hindus, the Egyptians, the Chaldeans, and the Gauls. To put it briefly, we may say that it sums up the whole teaching of ancient wisdom.

In historical times it has been revived by modern religions, especially by Christianity, which, in showing that the deeds of our present life are destined to receive judgment at the hands of divine justice, makes it a necessary element in the general harmony of creation.

By this belief, moreover, Christianity has found a means of quickening all the nobler instincts of man, of instilling into him devotion and consoling him in affliction, of showing him, in fine, the superlative dignity of self-sacrifice and suffering, which are the best means for us of acquiring, in the world to come, that perfect happiness to which we aspire, but which the world withholds.

Thus it is that a faith in the survival of the soul has forced itself upon man, who, despite the formal evidence of facts, has never been willing to admit his absolute extinction in death; and, since he is bound to confess his inability to reconcile the contradictory data with which the problem confronts him, prefers to maintain the illusion of life, even though he be compelled to fall back entirely upon his imagination in order to represent to himself that new existence the conception of which is to him a matter of necessity.

It is then that we turn to science, in all its manifestations, with the object of discovering whether it really confirms us in our dreams, which it controls at least in points bordering on its domain, and whether it may not even afford us some evidence of the activity of the human soul such as would permit us to conclude its real existence and arrive at a conception of its nature.

Astronomy has already revolutionized our primitive notions by unfolding to our astonished eyes the immensity of the heavens. It has disclosed what an insignificant place our world occupies in the vast universe, amid a throng of countless stars, which probably support intelligent and corporeal beings like ourselves; and it has likewise compelled us to acknowledge the impossibility of discerning, in the measureless void of space, the material heaven and hell whither mankind formerly supposed that the souls of those who had quitted terrestrial existence migrated, and it has led us to transfer the scene of final destinies to an immaterial plane, which human nature in its present state is unable to perceive.

By the help, on the other hand, of the discoveries achieved by the physical sciences, astronomy has at the same time succeeded in throwing unexpected light upon the history of the universe; for it nowadays regards creation, taken as a whole, in the light of a true dynamical system, obedient to known laws and progressing by a series of imperceptible transformations toward an end which we are able to predetermine.

We are aware that these transformations necessarily result in the destruction of the highest forms of energy, such as motion, light, and electricity, and that they

reduce this latter to its least developed form, namely, to that of heat; we also know that the elements composing the universe tend thus to reach a uniform temperature, which will not allow of life or even of motion.

The universe presents itself to us in the light of a vast mechanism of which we perceive only the parasitical movements, while its useful working eludes us entirely. By a perfectly legitimate extension of the same reasoning we conclude that these, the highest manifestations of energy, cannot be destroyed without leaving their equivalent upon a semi-material plane, which, though we cannot approach it directly, no doubt involves the ultimate reason of things, the existence of which we surmise, although we have no perception of it. We at the same time recognize that the universe possesses a determinate history, and we thus see how science can shed light upon the discussion of philosophical problems, and lends probably conclusive support to the idea of an original creation.

When we come to deal more particularly with the tangible world, we see that the material atom is probably not endowed with that absolute immutability which we heretofore ascribed to it, and this gives us yet one more motive for rejecting theories based upon the idea of the eternity of matter.

Seeing that the physical sciences thus acquire paramount importance in our inquiry, we turn to them yet again, and discover the fundamental law of indestructibility governing all the manifestations of matter and mechanical forces. We know that we are impotent to create or to destroy the minutest material atom, and we can induce no new manifestation of energy without at once causing an equal quantity under another form to disappear. We remarked that the law of indestructibility applied not only to matter and energy, but also to all events of the past, which also become indestructible when once they have been recorded in the vibrations of the ether, and we have every reason to suppose that the law holds good of phenomena purely immaterial in appearance, such as thought, seeing that the ideas

which we conceive appear also to be inscribed in the unending vibrations of the invisible ether. We recognize, in fine, that nothing whatsoever in the universe can elude the inevitable operation of the incorruptible law which eternally preserves the memory of the past; and we are hence justified in concluding that the living, and especially the conscious, forces must also be amenable to the same law, for it can scarcely have determined to preserve the memory of our most insignificant acts and yet be unwilling to preserve the being who is their author.

If we then proceed to inquire into the mode of action of the physical forces, in the hope of thence drawing some important deduction concerning the nature of conscious force, the existence of which we are thus led to surmise, we find that all of them are exercised through the agency of a hypothetical medium which we term the ether, for it is to it that we trace back the most divergent manifestations of energy. According to our conception, the ether effects the solidarity of all the elements of this immense universe, which it entirely pervades; it is capable of transmitting the effort, almost immeasurably great, by which the planets are maintained in their orbits, and at the same time the most delicate and most minute of electric, calorific, or luminous actions. It produces with equal fidelity each tremor of life, and it is the requisite agent in the production of all phenomena. But the ether is even more than this, for we think to discover it to-day in the very constitution of matter. The atom, despite its infinitely small dimensions, appears to us to be a kind of infinite world, formed by the union of etheric molecules the distribution of which determines its fundamental properties.

Thus, in order to explain the slightest material fact, we are bound to fall back upon the hypothesis of an ether, which henceforth becomes for us the one reality, the hidden reason inspiring matter; as the ancients put it, "Mens agitat molem." Are we not therefore entitled to look to the ether for an explanation of life itself? May we not consider life as depending upon the action of some special immaterial aggregate, perhaps more subtile even than the ether?

We now look upon etheric radiations as a necessary property of inert matter. Is it not legitimate to discover them also in the organic world, and to view them as manifestations of that subtile aggregate which determines the form and growth of living beings ?

Among lower organisms this aggregate is scarcely differentiated from the material atom ; but as we ascend the organic scale it becomes gradually more and more refined : it adopts at the same time more and more subtile elements as soon as consciousness becomes more perfectly awakened, as is the case with the higher animals, and especially with man, in whom it is accompanied by the exercise of the highest faculties of the soul.

We thus come back to very much what ancient doctrine taught, namely, that the different faculties were so many distinct elements in the immaterial portion of man, or in that astral envelope which, according to Plato, was the chariot of the soul ; and this conception would nowadays appear to have acquired additional authority from a scientific standpoint, as a result of the researches at present being prosecuted into such strange phenomena as the externalization of the astral body and the transmission of thought to a distance, phenomena which we have already discussed.

If it were moreover possible to prove that mediumistic communications do in reality bring us messages from beyond the grave, they would in themselves furnish us with the decisive proof for which mankind has so long craved. It is, however, to be feared that they will always lack the probative force to which we are accustomed when studying material facts.

The forces of which we wish to prove the existence are indeed of a different order from those acting directly upon matter, but as they can manifest themselves only through the medium of the latter, it is to be feared that the reality of their intervention will always be open to doubt. Still, it should be noted that all the etheric movements by which we are wont to explain the action of the physical forces are not possessed of more certain reality ; for they elude all direct observation, and, apart

from their effect upon matter, they never acquire energy enough to interfere with the dynamical equilibrium of material systems.

The ignorance to which we are condemned with regard to the invisible world is undoubtedly the necessary result of the imperfection of our human nature, which renders us unable to perceive elements more subtile than those of the material plane, above which we cannot rise; and since science compels us to suppose their existence, but is unable to show them to us, are we not compelled to admit that the idea of the existence in man of an independent immaterial element forces itself upon us with a probability which equals, if it does not surpass, that of all the theoretical conceptions of positive science?

If the soul really, in the way that we have seen, possesses an independent existence upon a plane other than that of matter, we cannot suppose it to be necessarily involved in the death of the physical body. Rather ought we to think that it returns to the invisible world whence it emanated, there to fulfil the course of its unending destinies.

Thus formulated, faith in survival seems to us to be the inevitable consequence of the scientific conception of the human soul; but, although it may furnish us in principle with the formal affirmation for which we sought, it cannot satisfy our restless curiosity, for it knows nothing of the conditions in which that future life shall be passed.

Mediumistic communications, which pretend to come from beyond the grave, have never shed the slightest light upon this essential problem; they have not opened up for us any new and enlarged view of the destiny which awaits us. So weak is man's estate that he cannot even fashion a speculative theory which completely satisfies him, and renounces any attempt to base it on the observation of facts. Even if we admit the immediate survival of consciousness, we are bound to recognize that it must undergo a radical transformation, owing to the mere fact of its separation from the physical body.

This change is continually going on, even during the present life, and although from moment to moment it may seem imperceptible, it nevertheless is incessantly operative, and in certain cases may acquire an importance impossible to foresee.

The old man who has passed through life and has alternately experienced its good fortune and its reverses finds that it requires an effort, when he conjures his memories, to imagine what kind of a being he was in all these diverse circumstances. The same events impressed him differently according as he was rich or poor, strong or feeble, prosperous in health or crippled by disease, able or not to exert all the faculties which life puts in the service of man. Now he no longer has the same needs, desires, or powers, and he feels that his inner self has in every respect profoundly changed.

Even so the mother who after long years of separation finds her loved son once more in her arms is bound to recognize that she no longer has before her the child whom she remembers, but a new being with other thoughts than his. So true it is that we are in a constant state of moral as well as physical change.

If life, then, changes the psychical consciousness, how much more profound must be the transformation ensuing upon death; for it, at one stroke, robs the disincarnate soul of all its former means of action, and carries it to a new plane where almost all the cares which have hitherto occupied it will be for the future objectless. The needs of material life, the pursuit of wealth and happiness, the joys and bitterness of this world—all that went to make up life has vanished; and perhaps the soul may no longer make the effort to return, even in thought, to its previous condition. The winged butterfly which darts so lightly upwards despises the crawling caterpillar chained to earth, and the chrysalis motionless as in death. Doubtless it has forgotten those dark stages which were necessary to allow of its resplendent reawakening. Even so the state of consciousness of the disembodied soul is no doubt determined by the new life upon which it enters. All that it is permissible for us to conceive is that it

may preserve the moral progress which it has realized in the course of earthly existence. Probably it yet retains feelings of desire and suffering, since the astral element which it carried with it alone possesses sensitivity, which we erroneously attribute to the physical body; and thus maybe it reaps chastisement for its excessive love of the things of carnal life. For henceforth it is impotent to gratify the needs and longings which survive in it together with the astral body. Doubtless this punishment is destined to endure as long as this semi-material envelope. Crude and vague as this conception may appear, it is perhaps the only one which can afford us an approximate notion of what life may be in those places of correction which we call purgatory and hell.

If scientific observation affords us this slight glimmering, it is, unfortunately, not able to do more. We should like, indeed, to know if the disembodied soul can act to any purpose in endeavouring to better its assigned condition, or whether it can hasten the moment of its deliverance from this Nessus shirt, this envelope of unappeased desires, which is the chastisement hinted at in ancient legend. Above all, we would know whether all souls may hope for final freedom, or whether certain of the most guilty sinners, who have allowed every seed of a higher life to be choked, will be condemned to an eternity of misery. We wonder, on the other hand, whether in its eternal bliss the soul is still able to climb higher toward divine perfection and to pass through those different mansions which make up the house of the Father, as the Christ says.

All these are questions to which we are unable to reply, and, as we before remarked, science itself cannot even guide the imagination toward a theoretical solution. Religious faith alone would seem in a position to afford us the desired answer. All that we possess is the conception of a state of infinite perfection set before us as the unattainable goal of all our endeavours. Toward it we must eternally struggle, hopeless of ever reaching it. Building upon this idea, which alone can illuminate our dreams, we may, perhaps, say that the

perfection of which we then have a glimpse must accord with the intimate constitution of the soul, whose final object it is. It must therefore affect the various faculties in which that soul manifests itself.

Now, the soul is capable of volition, intelligence, and love ; it desires the good, conceives the truth, and loves the beautiful. It feels and, as it were, pursues these primordial ideas beyond the merely transitory manifestations in which they are clothed here below, and experiences the need of uniting itself with them in an even closer communion, which finds its most lofty manifestation in charity. Thus it comes to conceive that notion of a divine Trinity wherein it finds a reflection of itself : the Father, whose will maintains the world, the Son, who is its Word and Intelligence, and the Spirit of love and charity. These three Persons are the goal of its three faculties.

This is, no doubt, a principle which appears to be self-evident, but we, unfortunately, do not see how it can receive its application in the future life. We know that life is a perpetual evolution ; and it is repugnant to us to suppose that this evolution comes to an end in the world beyond, which is a plane of the universe just like our own. But we cannot, on the other hand, conceive how the activity of an immaterial being can contribute to its moral progress.

We live in a world of suffering and pain, and are constantly obliged to struggle against triumphant evil and rebellious nature, and at this price alone can we purchase merit and progress ; we cannot conceive how it could be otherwise. Doubtless the moral universe is formed by the one vast communion of the living and the dead, of the suffering and triumphant Church, and of the Church militant, and we know that the dead who are in heaven or in purgatory cannot completely forget the beloved ones whom they have left upon the earth. We discover their guardianship in the good thoughts with which they inspire us ; but, although this intervention certainly attests the spirit of charity by which they are animated in the world beyond, yet we cannot understand how that interposition can entail the self-

sacrifice and devotion which alone, in our estimation can give it real merit; and it is not without good reason that the Christian dogma seems to deny personal activity to the souls of the dead, at least in purgatory. It consequently causes their deliverance to depend exclusively upon the prayers of the living, which alone can obtain in their favour the application of the infinite merits of the Saviour. But if we suppose that the imperfectly purified soul is to return to the earth, and there, in a new incarnation, to carry on its unending development, we recur to the doctrine of antiquity, which indeed concords better than any other with the conception of an infinite progress, of which we cannot divest ourselves. At the same time we are compelled to recognize that this theory also gives rise to grave difficulties.

Evidently it cannot rest upon the observation of facts, seeing that we have lost all memory of a prior existence. This, however, is by no means the most decisive objection; for we may admit that the consciousness of the moral being is determined by the nature of the semi-material envelope surrounding the ego, and we must consequently conclude that it undergoes an entire transformation when it takes on a new envelope. Of the past it retains only the more or less developed psychical faculties which it possesses at birth, together with dim recollections hidden away in the depths of subconsciousness, of which it has no perception in the normal state.

In order to give certainty to the theory of the plurality of material existences, we should require to show in the manifestations of subconsciousness some undeniable trace of memories or knowledge which the normal consciousness could not possibly have acquired in the course of the present existence. This yet remains to be satisfactorily demonstrated, despite the fact that certain mediumistic experiments and the observation of certain infant prodigies are strongly in favour of the theory. It nevertheless encounters a yet more grave objection in the fact that the history of mankind does not in any way appear to confirm the idea of uninter-

rupted moral progress, which is its foundation. It is true that we find humanity to have made a certain amount of progress as far as sensitivity and intellect are concerned, but we do not notice anything of the same kind with regard to morals. We do not think that people of our own times, when tempted to commit a dishonest act to their own profit, would be better able to resist than were their ancestors several centuries back; but if we are actually those ancestors, once more come back to the earth, ought we not to display higher morality than in our previous existence? For this would be the only true criterion of the progress which, according to theory, is the sole aim and object of our successive existences. To follow up a remark which is, perhaps, over-pessimistic, one begins even to wonder, in the case of many of our contemporaries, whether the existence which they are at present leading upon earth corresponds to any certain moral progress, or to the formation of a more purified *kerdar*, according to the Chaldean conception; or whether it does not too often represent an absolute halt or even a retrogresson in the forward path which is set before them. In order to escape from this dilemma, we may doubtless endeavour to transfer to planetary worlds the scene of this infinite evolution, the idea of which forces itself upon us in spite of the contradictions which the observation of everyday facts would appear to create. But here again we encounter the same objections as we did before. If these far-off humanities know no evil, if they have not to struggle against the sinful instinct of their imperfect nature, we do not see how they can acquire any merit; and if, on the contrary, as is more probable, the celestial worlds which they inhabit are vales of tears just as is ours, it is to be conjectured that intelligent beings would not there make more progress than we do ourselves, and would be unable to purge their material nature of the gross desires inherent in it. Here again we light upon no completely satisfactory solution, for all that we are now treading the ground of pure imagination, and thus momentarily escaping the control of observed facts; and we must consequently

admit that in our present state we are quite incapable of forming the slightest idea of what may be the planes of life in the universe other than our own. If we are destined never to know aught of a future life; if we must ask of religious faith to reveal to us a world which man's weak reason cannot discover by itself, we should, on the other hand, in the name of science, cling energetically to the principle of survival, which, as we have seen, is presented to us upon the double authority of the deductions based upon universal tradition, and upon the observation of facts.

Non omnis moriar, exclaimed the Roman poet, who had imbibed all that ancient wisdom had to teach; and one of our most eminent men of science, Frederic Myers, recovered faith in survival through the investigations which he carried out in the name of the Society for Psychical Research, and in the hour of death he reiterated his affirmation of that belief as based upon scientific conviction. It is the answer to the cry of a latter-day poet, who re-echoes the general prayer of all mankind:

> " Fais naître un renouveau suprême
> Au cœur des morts."

Christian faith had long before given expression to it in the noble preface to the Service for the Dead; as if it had felt and instinctively foreseen the law of indestructibility which was to arise out of the future discoveries of positive science.

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